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Original Articles

OPERATIVE TREATMENT OF CANCER OF THE RECTUM.*

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In the communication which it is here my privilege to make before this Association I wish to do no more than mention very briefly the case report and then proceed to discuss at greater length the question of the operative treatment of cancer of the rectum and the bearings which the operation described may have on it.

In the spring of 1903 there was admitted to the Royal Victoria Hospital in my service a man, aged 23, who had for nearly five years been suffering from a tuberculous proctitis. A left iliac artificial anus practically cured the condition, but at the expense of great scar narrowing, so much so as to constitute an obstruction. This condition defeated several attempts at closure of the artificial anus, and ultimately, so to speak, forced on me the idea of a total excision of the bowel from the artificial to the natural anus, though with preservation of the sphincter, together with implantation of the descending colon into the anus, which last was to be accomplished by free cutting of the mesocolon.

The natural objection, *a priori*, was that the blood supply would be too seriously damaged to permit of any such maneuver, yet on looking closer into this question I became convinced that such need not be the case. The anastomoses between the middle and left colic and between the left colic and the sigmoid arteries are so free by way of the communicating loops situated near the mesenteric border of the bowel that, as I believed, one need only take care to spare these loops in the ligation of the mesosigmoid and mesocolon; that is, one need only make sure of ligating the arteries close to their origin from the inferior mesenteric and the blood supply would be assured.

I then looked through the literature and found that Kümmell[1] of Hamburg had performed the operation on two occasions, De Quervain[2] once and Treves[3] once.

Therefore, after doing it on several cadavers, I felt justified in proposing it to the patient, who willingly consented.

Operation.—July 5, 1905, the operation was carried out. I need not describe the procedure at this point; its essential details were as just indicated; they are described in the somewhat fuller article published in the Transactions of the Section on Surgery and Anatomy.

Postoperative History.—The patient died of shock twelve hours later. This unfortunate result was not due to the operation as an operation, but rather to avoidable conditions—a weak patient, too painstaking a ligation of the mesorectum, making a long and slow operation; and finally afterward the omission of stimulation, especially intravenous saline, owing to an unfortunate misunderstanding. The postmortem showed no sign of a failure of circulation in the bowel brought down.

This has been my only experience in the performance of this operation and, though unsuccessful, it taught at least the lesson, as shown by the postmortem, that the descending colon with the splenic flexure could be so loosened from its posterior attachments as to be capable of being brought down to the anus without endangering its blood supply. This was a mere confirmation of Kümmell's experience previously related and of De Quervain's.

Lately, however, the idea has been strong in my mind that the principle involved possessed a very definite application to the operative treatment of cancer of the rectum.

The line of thought, elaborated in what follows, was briefly this: The results of the operative treatment of rectal cancer are poor; a wider removal of possibly infected glands than has usually been practiced is necessary. This will necessitate resecting the bowel at least from the level of the promontory. To bring, in spite of this, the proximal end of the bowel down to the anus, in order to escape the *bête noire* of an artificial anus, it will be necessary to mobilize the sigmoid or what is left of it and, on necessity, the descending colon also, by cutting the supporting structures. Can this be done without endangering the blood supply of the bowel brought down?

There is here no time to enter on any discussion as to the comparative value of the various types of operation in common use, nor can I summarize even briefly the published results. These are considered in the unabbreviated article. Speaking generally, I need hardly fear contradiction of the statement that the immediate mortality is high and the ultimate results poor.

In endeavoring to form a judgment on the merits of rival operations in this field there are three chief points to keep in mind: First, the immediate operative mortality; second, the preservation of fecal control; third, most important of all, the permanency of cure. On these points we have now a large body of statistics which are as usual more or less fallacious. In a general way, however, one is justified, I believe, in drawing certain conclusions.

If a slight dogmatism might be forgiven for the sake of brevity I would venture to make my own confession of faith with regard to this matter. I would divide rectal cancers into two classes, from the standpoint of operability: 1, Those which are situated in the anus or so close to it that a properly wide removal must needs sacrifice the sphincter; 2, all those above this in which the

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907. The article is here abbreviated, especially in its statistical portion. The complete article appears in the Transactions of the Section and in the author's reprints.

1. Arch. f. klin. Chir., lix, p. 555.
2. Rev. Méd. de la Suisse Romande, Dec. 20, 1901.
3. Lancet, Jan. 29, 1898.

sphincter can be saved. It is only of the second class that I wish here to speak. It includes not only the high cancers of the rectum but also those of the middle or ampullary portion.

In the first place the surgical principle, which alone in these days is applicable to the removal of cancer, is that of a block dissection of tumor and glands, including not alone the palpably involved glands but also those which belong to the same lymph territory and are "suspects." With regard to cancer of the rectum, Gérota[21] has shown that the glands which immediately drain it run up to, and often a little above, the promontory of the sacrum. In operating for cancer of the rectum it is imperative to remove all these glands, and naturally with the glands must go the bowel also, in the mesentery of which they lie. With the access given by the sacral opening which does not extend above the third sacral foramen (Fig. 2) it is difficult, if not impossible, to remove the glands that lie above this point and which may extend as high as, or even above the promontory. Therefore, on this basis the sacral operation is *ab initio* incomplete and consequently unsurgical; and it can hardly be doubted but that this fact is to a certain degree responsible for the frequency of recurrence in rectal cancer.

This is, to my mind, the fundamental objection to the

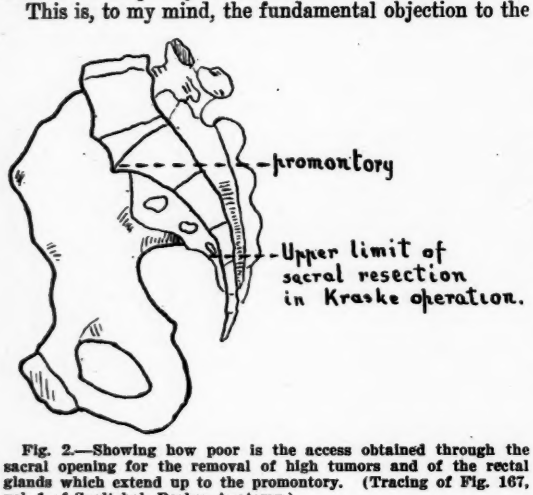

Fig. 2.—Showing how poor is the access obtained through the sacral opening for the removal of high tumors and of the rectal glands which extend up to the promontory. (Tracing of Fig. 167, vol. 1 of Spalteholz-Barker Anatomy.)

Kraske operation. So true is this that Kraske himself, the father of the operation, at the Twenty-ninth German Surgical Congress, roundly declared himself in favor of the combined abdomino-sacral operation, to the end of a more thorough removal of the disease, for the stated reason that the sacral operation alone was followed too regularly by recurrence. The corollary is that only from the abdomen, or at least with the help of an abdominal incision, can a really thorough eradication of the dependent gland territory be made. In this point the abdomino-perineal operation is right in principle.

In the second place, it being granted that the bowel and the glands must be removed as a routine procedure from the level of the promontory, it becomes evident that the proximal end of the bowel will frequently be too short to pull down to the distal stump or to the anus, or, at least, that if brought down it will be under a tension such as to invite necrosis. Constantly throughout the literature of the sacral operation one meets the mention of this difficulty and the consequent falling back on a sacral anus, or, if united, the occurrence of necrosis and fistulas. As to the effect of tension, any pull on vessels narrows their caliber, and Rehn has shown that in bringing the upper rectum or sigmoid down under tension there is a very decided pull on the superior hemorrhoidal artery; and if the pull be great the inferior mesenteric itself may become kinked. It is conceivable also that the superior hemorrhoidal is easily compressed against the projection of the promontory if the bowel is brought taut across the latter. In an excision a year and a half ago by the vaginal route the bowel, which I had brought down from about the level of the second sacral to the anus under very slight tension, underwent necrosis for the last inch or more. Other reasons which nave issued from certain injection experiments detailed below will be mentioned later.

The sacral operation, moreover, as already said, is apt to damage sphincteric action by cutting its nerve supply. Even Hochenegg and Kraske secured fecal control only in half of their sacral cases in which the continuity of the bowel was restored. For these main reasons I believe that the sacral operation as a type procedure should be abandoned.

The Quénu-Mayo operation effects an ideally wide removal under the best conditions of asepsis, and in that sense is surgically perfect. Nevertheless, it is exposed to two objections, of which the first is its routine establishment of an artificial anus. To sacrifice deliberately in every case all hope of the natural evacuation of the bowels will always seem to most of us a sad confession of failure; nay more, a distinct step backward. One may be ready to admit that a good iliac anus with a sigmoid trap and an intermuscular insertion may be a very comfortable thing, but the patient will rarely take that view of it. To him it is nearly always the worst kind of a *pis aller*. One of Reverdin's[22] patients, it is true—a lady in whose case he had been obliged to establish a permanent left iliac artificial anus several years previously—remarked to him one day: "Je ne comprends pas que le bon Dieu ne nous ait pas mis le derrière devant; c'est bien plus commode." An observation of a truly Gallic nature, difficult to turn into proper English. Against this, however, might be set the opinion of a patient of mine, likewise a Frenchwoman, who has had a perfectly functionating artificial anus for two years past, yet maintains that she would much rather be dead and pass no stools than alive and pass them as she does. This more truly represents the general opinion. Indeed, Mayo naively remarks that "for sentimental reasons a large number of patients elect the posterior operation even after careful explanation."

The second objection to the abdomino-perineal method lies in the fact that, at least in men, its operative mortality is so high, even in expert hands. That of the sacral operation was due rather to infection than to shock; that of the combined method may perhaps be due rather to shock than to infection. And the shock, as I believe, is due not alone to the extra time needed or the extra blood lost, but also, as Crile has shown, to the extra wounding of sensory nerves. The severity of the ordeal is seen in the results reported by Quénu and Mayo. If past masters in the handicraft of surgery like the Mayo brothers, working, moreover, together in this operation for greater speed, lose so many as the result of the operation, how many will the less expert man lose? An exception might perhaps be made of the female cases in which, according to Ito and Kunika, the operative mor-

21. Arch. f. Anat. u. Physiol. (Pflüger), Anat. Abtheilung, 1895.

22. Bull. et Mém. de la Soc. de Chir., Paris, xxiii, p. 409.

tality has been reduced to 9 per cent. In these, however, the first objection remains valid.

Reasoning in this way one comes naturally to an ideal. First, complete block removal of the bowel with its glands, beginning above and starting at least at the level of the promontory (that is, usually through the junction of rectum and sigmoid, according to the older anatomists, or through the middle or the lower third of the pelvic colon, adopting the phraseology of Poirier and the Continental anatomists), but preferably even a little higher, and extending down to well below the growth, the only exceptions being possibly those tumors situated either at or very close to the sphincter. Second, the preservation of sphincteric control where the growth does not invade or abut on that muscle, and the re-establishment of the natural course of fecal evacuation. Third, the lessening of the operative mortality. There are here two problems from the operative standpoint: 1, To remove the bowel high for the sake of thoroughness, and, in spite of that, to bring down the upper segment to the anus for the sake of fecal control; 2, to do this with the least danger of shock, sepsis and other causes of early mortality.

It is with regard to the first of these two problems that I desire to present a certain small amount of practical work.

In a general way the operations reported by Kümmell, de Quervain, Treves and that here recounted demonstrated the possibility of bringing the bowel from just below the splenic flexure or even the transverse colon down to the anus, without tension and without endangering its blood supply. The point, however, is expressly emphasized by Kümmell and de Quervain that the sigmoid and the upper rectum are far less able to be mobilized and brought down than is the bowel above. In the words of Kümmell:[24]

> We were forced to believe (by certain cases of bowel necrosis) that the circulatory conditions in the rectal and sigmoid portions of the bowel when these were freed from their mesenteric attachments, were extremely unfavorable, and that the collateral paths were insufficient to afford the necessary nutrition.

Kümmell's advice in a general way was not to depend on the preservation of blood supply in the sigmoid flexure when it had to be mobilized by cutting its mesentery, but rather to go higher and trust only to the descending or even the transverse colon. And this is exactly what De Quervain[24] carried out, obeying this counsel.

Now in the case of rectal or low sigmoid cancer it is evident that, though it is necessary to remove bowel higher than is usually done for the sake of removing possibly infected glands, it will still be desirable to remove no more of it than really is necessary; or, speaking specifically, it will be desirable to save as much of the sigmoid flexure as does not need to be removed on account of there being suspicious glands in its mesentery; and this for the sake of its easier bringing down as well as for the avoidance of unnecessary operative work.

I believe that the injection experiments now to be described demonstrate that while the procedure advised by Kümmell is not only possible but also advisable in certain rare cases of disease extending from the anus up to the descending colon or splenic flexure, it is quite unnecessary to go to such lengths in the case of rectal or sigmoid cancer. We shall revert to this question later.

24. Arch. f. klin. Chir., xliv, 1892.

The bowel being cut through, say, at the level of the promontory, the question, therefore, is, can the sigmoid in all cases be brought down to the lower end or to the anus? Or are we obliged, as Kümmell and De Quervain say, to resect the sigmoid, too, and bring down the descending colon in order to be more sure of the blood supply? In many cases the sigmoid loop is so long that the former can be done with very little trouble. In many others, however, with a sigmoid loop which is short, either congenitally so or as the result of the contracting effect of cancer,[25] this will be impossible. These cases in the past have been given a sacral or an iliac anus, or the bowel has been brought down under tension with consequent necrosis.

I may say at once that I believe it will be found possible in practically all cases, whether the sigmoid, that is in particular, the pelvic colon, be short or long, to bring the cut end of the bowel down and pull it through the everted lower segment without tension. Mechanically the task consists simply in cutting the structures that hold the upper end up. These are the peritoneum, the superior hemorrhoidal and the two or three sigmoid arteries, together with the areolar tissue that forms the mesosigmoid and the upper end of the mesorectum, and also the band of the peritoneum and cellular tissue which binds the upper part of the sigmoid, i. e., the iliac colon, close down on the psoas in the basin of the false pelvis. If the cutting of these structures be still insufficient to allow the sigmoid and iliac colon to come down to the anus it would be necessary to free the descending colon. The difficulty in doing this lies in the fact that this part of the bowel possesses a mesocolon only in about 20 per cent. of cases; in all the rest it is bound to the posterior wall of the abdomen rather firmly by the peritoneum which covers only about two-thirds of its circumference. This, of course, is its chief support. If one succeeded in loosening it, one might still be obliged to cut the left colic artery or even the inferior mesenteric itself before being able to get the bowel down to the anus without tension.

It is plain that there may occur the necessity of very extensive cutting of the mesentery with its vessels, involving a large portion of the direct arterial supply to the bowel. What then are the limits to which one could go in this way without running any risk of causing circulatory necrosis?

EXPERIMENTS.

In order to determine this experimentally I ligated in a series of cadavers the arteries in question in various combinations and then drove in an injection from the thoracic aorta. I also operated on two animals.

The protocols run as follows (it should be noted particularly that in all the experiments ligatures were placed and the mesocolon cut as far from the mesenteric border of the bowel as possible):

1. Body of an Infant.—Ligatures placed on the superior hemorrhoidal artery and on all the sigmoid arteries at their common root. The injection was then made from the thoracic aorta and the injection material (starch and red lead in water) can be traced as far as the end of the sigmoid loop (Fig. 3).

2. Body of an Infant.—Ligation of inferior mesenteric artery near its origin; additional ligatures placed on the left colic and three sigmoid arteries at their origin. Injection. The

25. Schuchardt (Centrabl f. Chir., 1900, No. 28, Beilage) has emphasized the fact that in most cases of tuberculosis and of syphilis of the rectum or sigmoid, and in many cases of cancer of this region, the bowel becomes gradually shortened, and that this shortening may be very great, so much so as to obliterate the sigmoid loop. Witness the case reported at the beginning of this paper.

skiagram in Figure 4 shows the result. There was an exceptionally free collateral circulation established in this case—from the middle colic right down to the terminal branches of the superior hemorrhoidal by way of the mesenteric border loops. It is probable, however, that the injection found its way by a short cut, which had escaped ligation, into the superior hemorrhoidal and that the collateral circulation was not by anastomosis with the lowest sigmoid. The mesentery with the blood supply up to the splenic flexure might here have been cut for mobilization without ill effect, if ligatures were placed as in this specimen.

3. Body of an Adult.—The superior hemorrhoidal and the sigmoid root were tied. The injection penetrated to the lower end of the sigmoid and very slightly into the rectum.

4. Body of an Adult.—Ligatures placed on the left colic, the sigmoid root and the superior hemorrhoidal arteries. Injection from the thoracic aorta; the injection penetrated nearly but not quite to the bottom of the sigmoid loop.

5. Body of an Adult.—In the fifth specimen (Figs. 5 and 6) the operation subsequently proposed as the type procedure, was carried out. The bowel was resected from about the middle of the pelvic colon opposite the promontory to within two

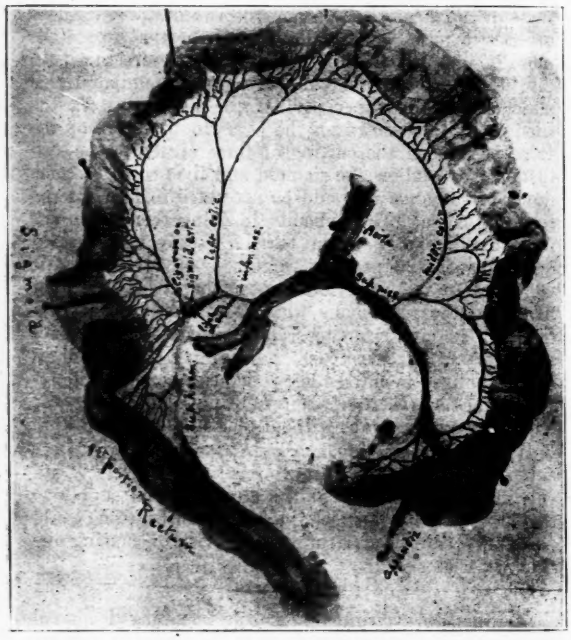

Fig. 3.—Skiagram. Ligature of sigmoid and superior hemorrhoidal arteries near their origin at points marked X, followed by injection from thoracic aorta. The bowel is viewed as from behind. The arterial network stands out in the skiagram because of the red lead in it. Note how amply the sigmoid has been supplied from the left and middle colic arteries by way of the large border loops; also how the supply diminishes steadily in the border region between the lowest sigmoid artery and the superior hemorrhoidal, which corresponds to the first portion of the rectum according to the classic description, that is, from the promontory to the third sacral vertebra. The anastomoses with the superior hemorrhoidal are poor. Although the latter vessel seems to show in the skiagram, as an irregular, patchy line, it was in reality not injected; its appearance is due to a ridge of mesentery inclosing the vessel accidentally smeared with the injection fluid. Outlines of the arteries injected heightened with india ink to guard against their possible disappearance in the process of large reproduction.

inches from the anus, the portion removed measuring 10 inches after preservation in formalin. The proximal end was freed by ligating the superior hemorrhoidal and the sigmoid vessels at their root and dissecting off the iliac colon (fixed portion of the sigmoid) by blunt stripping from its bed in the iliac fossa. In addition (although this was quite unnecessary for the purpose of bringing the bowel down to the anus, abundant slack having already been obtained), the whole descending colon was mobilized (as usual, there was no mesocolon) by cutting the serosa on its outer side from pelvis up to splenic flexure, and then stripping it bluntly from the posterior wall. In this way it could be brought very easily over to the middle line. The bowel end was thus brought down and pulled through the lower fragment, projecting about two inches outside the anus; and while in this position the body was injected from the thoracic aorta. As the skiagram (Fig. 6) shows, the circulation is fully maintained right to the end. The loosening of the descending colon in particular by blunt stripping of it across to the middle line had not interfered in the least with its blood supply, nor had it cut vessels of any consequence in the retrocolic fatty and areolar tissue, inasmuch as there was no exit of the injection fluid in this region.

This experiment in particular, together with the previous ones, seemed to me to prove that the fears of Kümmell and De Quervain as to the insufficiency of the collateral blood supply to the sigmoid when the arteries of the mesosigmoid are tied, were without foundation, although quite justified in the case of the first portion of the rectum, that is, the lowest portion of the pelvic colon. There are but two danger zones that have presented themselves in these experiments: 1, The zone of anastomosis between the lowest sigmoid and the uppermost superior hemorrhoidal branches. Here the anastomosis is poor as compared with that of the blood supply to the bowel above this point, and in the experiments the injection rarely penetrated to any extent into the upper rectum if the superior hemorrhoidal were tied. This artery runs a long course from its origin in the inferior mesenteric over the promontory and down to about the third sacral vertebra before it bifurcates into its terminal lateral branches. In this long course, as I have verified in a series of dissections, it gives off but one or two vessels, and these comparatively small ones, to anastomose with the lowest of the sigmoid branches and form a mesenteric border loop. The poverty of communication is seen in the illustrations (Figs. 3 and 4).

It is altogether likely that the reason for the constant tale of necrosis and fistulas as complications of the Kraske operation lies in the fact that the bowel is very apt to be cut off about this region in the sacral operation, and that in order to bring it down to the lower end its mesentery or the retrorectal tissue, containing its blood supply, is cut too close to the bowel in the effort to free it. This partial interference with blood supply in a region already but poorly nourished, comparatively speaking, together with the slight tension under which in many cases the bowel is pulled down, suffices probably to induce a certain amount of necrosis in the upper fragment in those cases which develop fistulas after circular suture.

One further contributing factor, as I believe, lies in this, that the superior hemorrhoidal in its course over the promontory does not lie close to the bowel but far back in the lumbo-sacral root of the mesentery of the pelvic colon, approaching the rectum at an angle, like the string of a bow, and ultimately becoming closely applied to the rectum only at the third sacral vertebra. Consequently the mesentery of the pelvic colon as it approaches the rectum must be cut very far back from the bowel and very close to the sacrum if the superior hemorrhoidal is to be preserved. Being severed, as it nevertheless frequently must be in the freeing of the bowel, the circulation has to depend on the one or two small anastomotic branches communicating with the lowest sigmoid branches above the point of ligation, and these are apt to be insufficient. Moreover, they, too, may be cut in freeing the bowel because they come off from the

main artery low down, not far from the bifurcation. This would make the circulation still more precarious.

The second danger zone is that of the anastomosis between the superior and the middle hemorrhoidal terminals. It is less certain and less important, and I omit further discussion of it here for lack of space.

6. Body of an Infant.—Ligature of the inferior mesenteric artery, and also of its branch, the left colic, with cutting of the mesentery as far as the division of the left colic, leaving a broad flange of it attached to the bowel. Removal of the sigmoid and rectum, then injection. The injection filled the territory of the left colic very freely down to the cut end of the descending colon.

7. An Adult Cat.—Resection of the rectum, descending colon and part of transverse, with invagination of the transverse into the rectal stump. The circulation was maintained.

8. Dog (terrier).—Excision of two and one-half inches of the descending colon with ligature of the inferior mesenteric artery and of the meso-colon up to the colica media. End-to-end suture. Death two days later from bursting of stitches and evisceration. At postmortem circulation to both segments of the bowel well maintained.

Several injections were also made after tying off the inferior mesenteric artery in dogs and cats that came to postmortem. This showed uniformly a very free collateral circulation from the middle colic artery by way of the border loops into the inferior mesenteric district. Morestin[26] ligated during life the inferior mesenteric in five dogs, and found that the circulation was constantly re-established without the least difficulty.

There is a reasonable degree of parallelism between these animals and man in respect to the blood supply, but not in respect of the ease with which the transverse or descending colon may be brought down to the anus, because in the cat and dog the descending colon and rectum possess a very free mesocolon, and the sigmoid loop is absent. In any case these extensive resections and ligations did not disturb the blood supply of the bowel brought down.

The experiments as a whole showed that one might cut off the whole arterial supply of the descending colon, sigmoid and rectum, and still find the circulation maintained as far as the lower end of the sigmoid at least, provided only that the vessels were ligated far back from the bowel so as to leave a broad flange of mesocolon containing the important anastomotic loops of the mesenteric border.

In view of these facts is seems justifiable to assert that the cancerous rectum may be removed in its whole extent from the promontory downward, with the whole territory of the anorectal (Gérota) glands; that the upper segment by employing a proper method of mobilization may nevertheless in all cases be brought down to and through the anal segment without tension and without danger to its blood supply; and that by that fact the necessity or the advisability of a permanent artificial anus disappears, save for the cases that come to operation during obstruction and the inoperable ones in which obstruction threatens, and short circuiting is impossible. It is probable that for the first class of rectal cancers, those cases in which the sphincter has to be sacrificed in removal, an iliac anus may be preferable to a perineal one without control.

26. Bull. Soc. Anat., Paris, 1893.

OPERATION PROPOSED.

On the basis of these facts I would like to summarize the details of the operation which to my mind fulfills best the indications of the proper operation for cancer of the rectum, and which I would venture to propose as the normal procedure. It is with some hesitation that I do so because there is still lacking the application to the human, save in so far as the experience related at the outset of this communication may bear on the matter. Yet I hope that this experience, such as it is, together with the results of the cadaver injections and the general surgical principles involved, may be considered sufficient justification for venturing to bring these views of the question before the profession even in this unfinished stage. The *raison d'être of* the method lies in the proof given here, in so far as it is proof, that the circulation in the sigmoid is well maintained under circumstances of extensive mobilization.

The operation may be thus described: The tumor is supposed to be situated somewhere between the pelvic floor and the promontory, so that the sphincteric apparatus, including the levator ani, remains intact after resection of the bowel. As an anesthetic one might use lumbar anesthesia by way of nerve blocking for the avoidance of shock in so far as this depends on the cutting of sensory nerves. To what extent, however, it is permissible to use lumbar anesthesia with the Trendelenburg position long maintained I am unable to say. The latter is important for work in the pelvis. A preliminary colostomy is undesirable, inasmuch as it might

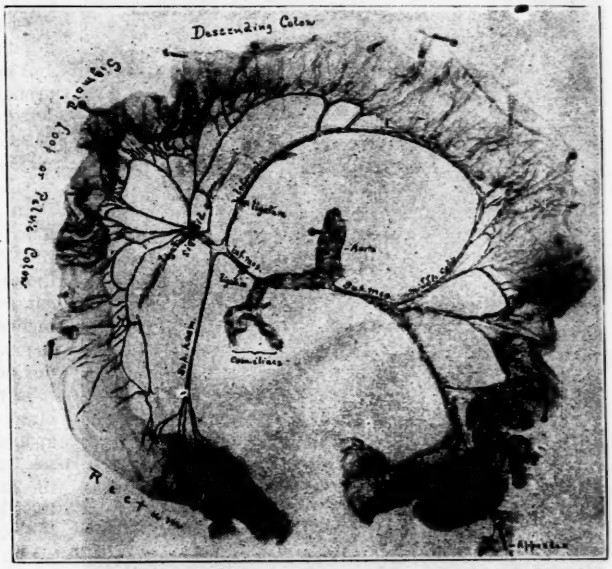

Fig. 4.—Skiagram. Ligature of the inferior mesenteric at its root; also of its branches, the left colic and the four sigmoid arteries near their origin. The subsequent injection coming by way of the superior mesenteric, in particular the middle colic, filled the whole territory—descending colon, sigmoid and rectum—that had presumably been cut off by the ligatures of the arteries mentioned. Note, however, how the supply to the first portion of the rectum, from promontory to third sacral vertebra (the latter marked by the bifurcation of the superior hemorrhoidal) becomes comparatively poor and how little anastomosis there is of the sigmoid with the superior hemorrhoidal. The latter vessel would almost certainly not have been injected here if it had not been for a small collateral running in between the ligatures on the inferior mesenteric and the sigmoids, which escaped ligation; this led almost directly into the superior hemorrhoidal. The outlines of the arteries have been heightened with india ink as far as the mesenteric border for reason given.

interfere with the free mobilization and descent of the descending colon on necessity. If experience should prove its advisability, it would best be done not as a preliminary but at the close of the operation when all the bowel that was necessary had been brought down.

Whatever the anesthetic employed, the abdomen is opened through a median incision, and the amount of involvement estimated. If inoperable, the least harm has been done the patient. If operable, the patient is placed in the Trendelenburg posture, the incision enlarged, the sigmoid loop is pulled out of the pelvis, and it is determined at what lowest point it may be cut across. This will depend on the extent of glandular involvement. Even when no glands are palpable the bowel must not be cut through at any level lower than that of the promontory, for the glands in its mesentery are in suspect territory up to that point. But if the glands higher up, in the mesosigmoid or along the iliac or the inferior mesenteric arteries, be involved, and if the

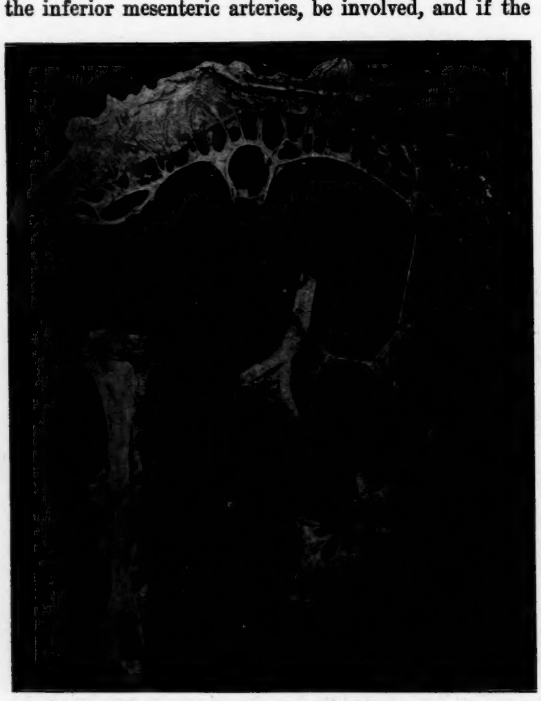

Fig. 5.—Photograph of specimen of which Figure 4 is a skiagram of a portion. Showing bowel cut through in lower third of sigmoid and in right half of transverse colon; also the portion of sigmoid and rectum excised, which measured ten inches after preservation in formalin.

operator consider that this fact is no sufficient bar to an attempt at radical operation, then it will be necessary, probably, to cut through the bowel higher up in the flexure. Just how high will depend on the width of the mesosigmoid, which may safely be left after removing widely the glands mentioned.

One need not fear to remove the bowel high up for the sake of thoroughness; the higher one goes in the sigmoid flexure the more certainly is the blood supply maintained when one comes to cut the mesentery for mobilization; and, on the other hand, one can always get sufficient mobilization, even if one be forced to detach the whole descending colon to do it. Nevertheless it is manifestly better to save as much of the length of bowel as possible.

At the point chosen the bowel is crushed with an angiotribe, doubly ligated in the furrow, cut between, the ends cauterized, and each end inturned with a purse-string suture.

The lower segment is then pulled forward taut toward the pubis, thus putting on the stretch the superior hemorrhoidal artery which runs in the lumbo-sacral root of the mesentery of the pelvic colon. This is doubly tied, as also the vein, and is cut between. The peritoneum is now cut with button-pointed scissors on either side of the rectum down to the peritoneal reflection in the cul-de-sac, and there transversely across. The bowel with the growth can now be peeled off with all the fatty and areolar tissue behind it from the hollow of the sacrum down to near the tip of the coccyx; this, according to Chalot, Kraske, R. F. Weir, J. B. Roberts and others, will cause but slight bleeding, and the necessity for mass ligature may be quite avoided. It was remarkable how in the operation on the cadaver after proceeding as described, the sacral hollow was not invaded by the injection fluid. It seemed as if one might confidently expect in the living but very little arterial bleeding at any rate. Possible venous bleeding might easily be stopped by packing. It has been advised to tie the middle sacral at the promontory. This is easily done, and might be of some advantage, as it sends a few small branches to the rectum as well as supplying in part the retrorectal tissue. Yet in one cadaver, in which I ligated it, the injection fluid penetrated it from below very freely through anastomosis with the lateral sacrals. The advantage therefore is doubtful.

In front the rectum can be peeled off from the bas-fond of the bladder without great difficulty. By this time one has got close down on the pelvic floor, and, in the case assumed, one is far enough below the growth to cut across the bowel at this point; that is, about two inches above the anus. One is still in many cases above the middle hemorrhoidal vessels, which may very well not need tying. If it be necessary to go a little lower, it is not difficult to isolate, still from the abdomen by blunt dissection, the lateral expansions of the pelvic aponeurosis which enclose the middle hemorrhoidal vessels, and which are so resistant as to be called by Poirier the lateral ligaments of the pelvic rectum. These can then be ligated easily from above. The rectum, with all the contents of the sacral hollow inside the aponeurosis which covers the branches of the iliac vessels and the sacral plexus—neither of which one need see at all in the operation—is now freed.

At this stage of the operation I would prefer to cut the rectum across just above the levator ani muscle and accept the risk of infection. This, with careful packing, with clamping or ligating, and with cauterizing, need not be great.

The lower segment is then to be pulled outside the anus, turned inside out. This is best done by an assistant, the table being lowered to near the horizontal, and the thighs held semi-flexed and abducted. He must stretch the sphincter, then pass three or four pairs of volsellum forceps up and grip the bowel at different points of the circumference, from the mucous surface through all its coats, and so by pulling evert it.

Meanwhile the operator proceeds with the mobilization of the upper segment in the manner already described. Ball[27] has said that if the sigmoid loop be not longer than six inches, it will be impossible to bring

27. British Med. Jour., March 7, 1903.

it down. This I have demonstrated to be erroneous. The operator may strip the iliac colon from the iliac fossa and may cut one or all of the sigmoid arteries, or even the inferior mesenteric itself; and will thus in all cases, as I believe, be alble to bring the upper end to the anus without tension. Under these circumstances the blood supply will be maintained by the superior mesenteric. Having mobilized the bowel sufficiently, it is simply brought down, telescoped through the everted lower fragment, reopened by removing the temporary purse-string suture, the ends sutured and the whole reinvaginated.

I believe that the method by which the upper segment is telescoped through the lower and is held in that position permanently by stay sutures to the anal margin, whether the mucosa of the lower segment be removed or not, is inadvisable, for the reason that the broad flange of fatty mesentery purposely left on the upper segment will always be apt to interfere with proper union and so favor the development of a fecal leak when the bowel retracts somewhat, as it must always do. End-to-end union outside the anus, imitating Maunsell's method; great care not to include in the suture much of the mesentery behind the line of union for fear of interference with the blood supply at the edge; and, finally, absolute lack of tension so that the bowel brought down lies loosely in the sacral hollow and is not pulled across it like the string of a bow—allowing for a subsequent retraction of one to two inches—these ought to be the essentials in guarding against the failures of circulation or of asepsis.

Drainage of the pelvis had best be employed for a few days through an incision between anus and coccyx. In the pelvis the cut edges of the peritoneum may be united to the sides of the bowel brought down in order to prevent hernia of the coils of small bowel under the latter, and to close off the peritoneal cavity. The abdomen is finally closed without drainage.

CONCLUSION.

This purely abdominal operation I would propose as the normal procedure for cancers situated within the limits mentioned, the chief arguments being that by judicious mobilization the upper segment can in all cases be brought down and joined to an intact sphincter. The great advantage would be the avoidance of the distressing artificial anus in all cases save the inoperable and obstructed ones. Further, inasmuch as the sphincter and levator have not been cut through at all, nor the coccyx and sacrum removed, the pelvic floor is intact and one may expect normal sphincteric action in all cases. Such a gain would be enormous. In addition to this, there are the advantages: first, of a thorough removal as a routine procedure, no matter how long or how short the sigmoid bowel, of the entire gland-bearing district, from which we may hope for better permanent results; second, of a greater economy of blood, and less cutting of sensory nerves, than when the sacral or perineal operation is added, and consequently less shock with, presumably, a lower immediate mortality; and third, of a preservation of the pelvic floor and the sacrum, intact, which will add to the comfort of the patient.

THE MAGNESITE SPLINT. A NEW PERMANENT SURGICAL DRESSING.

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Some ten months ago I began a series of experiments with the object of improving our present methods of surgical dressing by obtaining a hard, durable, coaptative dressing which would be easily penetrable by the Roentgen ray. My studies have taken me into the literature of various processes of a purely mechanical nature, and my adaptation of a reaction employed in the arts and but slightly known to general chemists to the usages of surgery has been a difficult matter. My work has at least given me a wholesome regard for the existing method, for the use of plaster-of-Paris as a permanent surgical dressing has so many points of superiority that it has replaced all others.

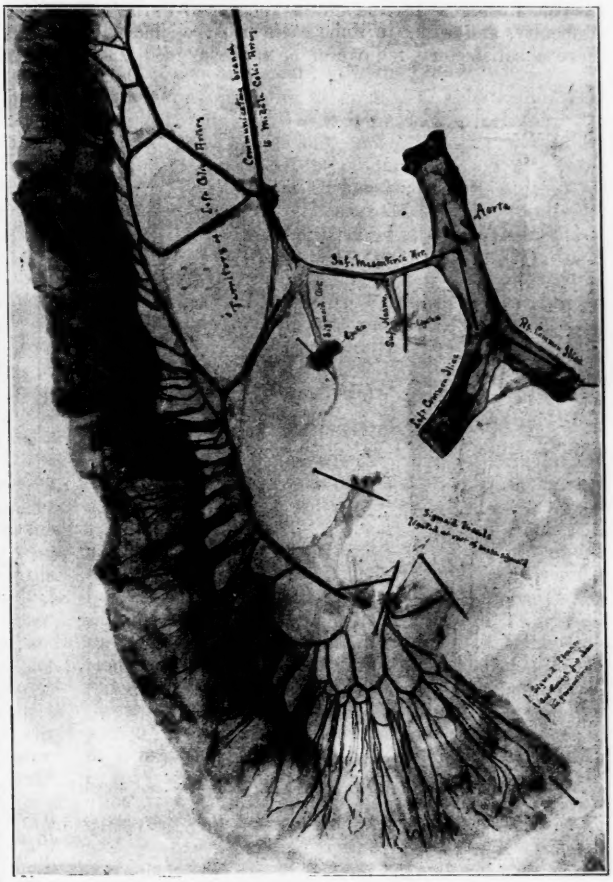

Fig. 6.—Skiagram. Bowel viewed from behind. Outlines of arteries heightened with india ink for reason given. Resection of bowel from just above the promontory (about middle of pelvic colon) to within two inches of the anus. Mobilization of sigmoid and whole descending colon, with ligation of the superior hemorrhoidal and the sigmoid vessels (save one which is either sigmoid or a branch of the left colic). Injection from the thoracic aorta after bowel had been brought down and pulled through the anal portion, projecting to the extent of two inches. Note the richness of the anastomosing loops along the mesenteric border and the complete preservation of the blood supply to the very end. Compare this with the poor blood supply to the first portion of the rectum when the superior hemorrhoidal has been cut, as is frequently done in the Kraske operation, in which the attempt is usually made to save this part of the rectum.

The general employment of this compound in surgery has been a slow and gradual process. It also was borrowed from the mechanic arts and, while its present application seems very simple, nevertheless it has taken years to develop the technic. Certainly its universal use has marked an important advance in the treatment of fractures. The advantages of an accurate coaptative dressing in fractures of the limbs are so great that one who has once learned to handle plaster will certainly prefer it to padded splints of wood or tin and the badly-fitting manufactured splints of the same materials. Plaster-of-Paris, however, is far from being an ideal material, and the general use of the *x*-ray has but added to its faults.

THE X-RAY IN DETERMINING RESULTS.

The Roentgen ray penetrates plaster-of-Paris with difficulty, and while in some cases it is possible to secure a satisfactory radiogram or make a good fluoroscopic examination, the method is far from being advantageous as a routine measure. The benefits to be derived from the Roentgen ray, not only in the diagnosis of bone lesion but in the accurate reduction of bone fragments, can not be overestimated. In oblique fractures, and where palpation is interfered with by thick muscle, the surgeon is only too glad to avail himself of this help, either by direct manipulation of the fractured limb before the ray, after the manner advocated by Bickham and others, or in checking his result after a permanent dressing has been applied.

Figure 1.

Figure 3.

Fig. 1.—Rigid magnesite splint for adult foot, leg and thigh. Weight, 2 pounds.

Fig. 3.—Magnesite splint for adult foot and leg. Weight, 1 pound.

The poor results obtained by those surgeons who rely on digital sense and measurements in the reduction of fractures are known to every radiographer. I have several times been much chagrined at the evidence which a well-taken radiogram has given me in instances in which I believed I had achieved a brilliant result by digital manipulation. While poor approximation may give good functional union in fractures of the middle third of the humerus, a fracture of the ulna and radius at the same point, with improper reduction, will generally result in a partial loss of function. Careful reduction is not only necessary, but the maintenance of this reduction is most essential. Hence a fluoroscopic examination after the cast has been applied is a source of great satisfaction, the surgeon being able to assure himself that slipping of the fragments has not taken place.

In the search for a compound which would answer my purpose I conducted experiments with water-glass, starch, dextrin and the many substances which have been recommended in the past but which are now not usually employed. I found them all unsatisfactory. Plaster-of-Paris is far superior in that hardening consists in a definite chemical reaction, a crystalline salt being formed.

PLASTER-OF PARIS.

In order to appreciate the subject more fully it will be necessary to consider briefly the preparation of plaster-of-Paris. In making this product gypsum is ground to a fine powder and then calcined in kilns. The industry is carried on extensively in several Parisian suburbs, hence the name. At a temperature of 80 C. (176 F.) gypsum ($CaSO_4.2H_2O$) begins to part with its combined water. An increase of temperature causes desiccation to proceed with greater rapidity, and for manufacturing purposes the best results are obtained at a temperature of 110 to 121.5 C. (230 to 250 F.), desiccation being carried on until about three-fourths of the water has been expelled ($2CaSO_4H_2O$). If the temperature be raised to 249.8 C. (480 F.) the time of hardening of the plaster is greatly prolonged, and at a still higher temperature it loses all power of again absorbing water. The setting of plaster-of-paris is due to its uniting again with water to form gypsum, which becomes a crystalline mass. This setting can be facilitated by heat

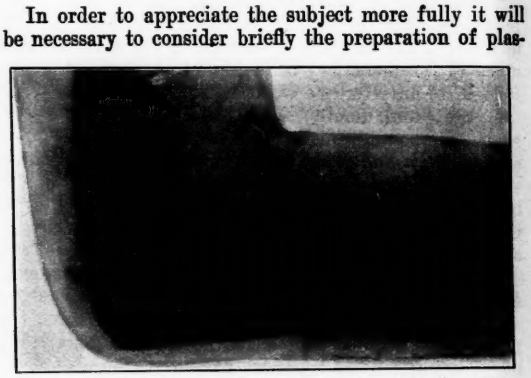

Fig. 2.—Elbow radiographed through heavy magnesite splint.

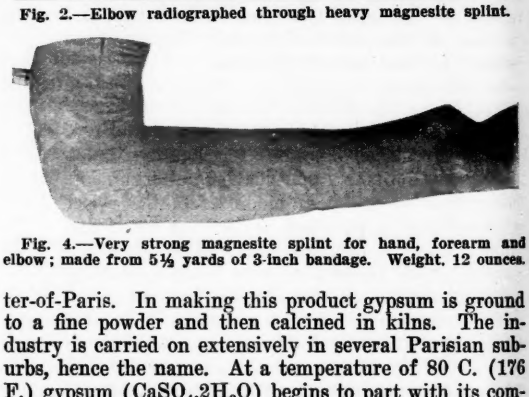

Fig. 4.—Very strong magnesite splint for hand, forearm and elbow; made from 5½ yards of 3-inch bandage. Weight, 12 ounces.

or by the use of salt or alum. It is accompanied by slight expansion and the evolution of heat. Unfortunately there are few substances which possess this power of recrystallization; analogous reactions are afforded by the oxichlorids of zinc and of magnesium.

It is generally recognized by physicists that the penetrability of the Roentgen ray for metals is in inverse proportion to their atomic weights. The non-metallic substances with which the metals are combined do not seem to influence this proposition. The atomic weight of calcium is 40, that of zinc 65 and of magnesium 24. For this reason one could conclude that the penetrability of magnesium compounds would be much greater than that of calcium.

MAGNESIUM OXICHLORID.

It was Sorel who in 1869 first called attention to the fact that the oxichlorid of magnesium had the remarkable power of setting like plaster-of-Paris when mixed with water. He found that the reaction produced a material much harder and more durable than ordinary plaster, so hard in fact that it was capable of taking a polish. The resulting compound showed great tenacity; it could be mixed with fifteen or twenty times its weight of other dry powders without losing this power of setting when water was added. Practically the reaction is accomplished by making a strong solution of magnesium chlorid into a thick paste with magnesium oxid. The mass soon hardens and sets and is found to contain an oxichlorid of magnesium ($MgCl_2.5MgO$) associated with a varying quantity of water of crystallization, the amount of water depending on the temperature at which the reaction has taken place. The practical value of the reaction was quickly appreciated and numerous companies were formed for its manufacture. The first patents on the process soon followed its discovery. At the present day it is used considerably, under a great variety of trade names, for the manufacture of flooring, wainscoting, etc.

For this purpose magnesite, native magnesium carbonate, is employed. It occurs in Austria and Greece in extensive deposits, and is also found in California. The magnesium carbonate is first crushed and then calcined at a temperature of 800° to 900° C. in rotary pans. Carbon dioxid begins to be given off at 600° and this is apparent by a slight ebullition on the surface. Practically the work is done in a rough way and no attempt is made at uniform temperature. Heating is continued from eighteen to twenty-four hours, the carbon dioxid being thrown off slowly. If the temperature is carried too high the power of setting with magnesium chlorid is lost. This substance is mixed for commercial use with about six parts of sawdust or sand and then made into a thick paste with a strong magnesium chlorid solution, a strength of 22 Beaumé being generally employed.

ADAPTATION TO SURGICAL USE.

The adaptation of this reaction to surgical use has not been easy; some portions of the process are protected by patents, while others are trade secrets. Information has been meager and hard to obtain and my knowledge has been derived piecemeal from many sources. It is not necessary for me to tabulate my various experiments, but it will suffice to give simply the practical results of the method. It must be remembered that we are dealing with a reaction quite different from plaster-of-Paris. For instance, in the latter we use table salt or alum to hasten the reaction, while with the magnesium preparation salt is practically inert and alum slows the setting instead of hastening it. It has been found that the stronger the solution of magnesium chlorid the quicker the reaction, but here again caution must be observed, for this is a deliquescent salt and must, therefore, not be present in excess.

The magnesia of the drug stores, both the magnesia usta and the magnesia ponderosa, can not be employed. They are prepared by thorough ignition of the magnesium carbonate and do not set when magnesium chlorid solution is added. Dry heat is a most efficient aid in promoting the rapidity of the reaction. In a general way we may say the greater the degree of heat employed the quicker the final result, although at very high temperatures the plaster will sometimes crack. It does not become brittle by heating as is the case with plaster-of-Paris. Like plaster-of-Paris a slight expansion occurs in the setting of this magnesium compound. Chemical combination is also accompanied by the evolution of a small amount of heat.

The term magnesite as applied to this method is a misnomer, but I have used it for lack of a better. Its chemical name is too long, and I have found that my confrères prefer to call the product the magnesite dressing or magnesite splint. I have employed both the California and the imported magnesite and my results are equally good with either. The California magnesite is calcined by the Magnesia Products Company, West Berkeley, Cal. The imported variety is manufactured by the Concordia Chemische Fabrik auf Actien, Stassfurt, Germany, and is obtained through a local firm. Inquiry will disclose commercial houses employing the reaction in every large city, so there should be no difficulty in obtaining the material.

APPLICATION.

Bandages of crinoline are impregnated with the calcined magnesite by means of a plaster-of-Paris bandage machine. I prefer a width of three or four inches and a length of three yards. A stock solution of commercial magnesium chlorid is prepared. This should have a specific gravity of 1.250 (28.8 Beaumé) and is made by dissolving 20.44 parts by weight of magnesium chlorid in 16 parts of water. In my work the best results have been obtained in this strength. If any sulphates are present in the solution they should be precipitated by barium chlorid, as the reaction is rendered slower by their presence. A little of this solution is poured into a small container and the bandage immersed in it until bubbles cease to rise. The surplus solution is then squeezed out and the roller applied smoothly, directly on the skin or over sheet wadding, as the surgeon may prefer; the magnesite cream is worked in with the hands avoiding if possible the use of any additional solution. Dry calcined magnesite is then added and rubbed about until the moisture is well taken up; the finished cast will "weep" if magnesium chlorid is present in excess. If this occurs it can readily be remedied by rubbing on a little dry magnesite. For ordinary work two layers of bandage will be all that is required. The beginner is almost certain to make his splints of this material too thick. A little practice will suffice to show what great rigidity may be obtained in a very thin layer.

SETTING.

The setting of all cements is divided into two portions, a superficial setting, which may be defined as that state in which the compound is of sufficient hardness to

maintain its shape, and the final setting, which marks the end of the reaction. I have found the final setting of magnesium oxichlorid to be a little more rapid than that of plaster-of-Paris. My observations have been made on blocks of materials of equal volumes and under the same conditions. It is in its rapid superficial setting that plaster-of-Paris greatly excels. I have felt that if as rapid a superficial setting could be obtained with the magnesium compound we would have an ideal material, and I have devoted much time in endeavoring to obtain such a result. My labors have thus far been futile. Experiments with an electric furnace have been conducted, varying degrees of temperature in the calcination of the magnesite being employed but without success. Combinations with other ingredients have been tried, but where a quick superficial setting was obtainable it was at a great loss of tensile strength.

A fairly rapid superficial setting may be obtained by the use of heat, but when it is imperative to secure a quick setting, as in some fractures, I prefer to cover my magnesite dressing with a muslin bandage and then apply over this a thin layer of rapidly-setting plaster-of-Paris; on the next day this superficial plaster and the muslin bandages are torn off, leaving a hard, permanent cast. The magnesium oxichlorid reaction has been regarded, commercially, as a very tricky one. Bad results generally are due to low degrees of temperature and the experimenter will soon find that he gets much better results at body heat than at temperatures below that point.

ADVANTAGES.

It remains but to sum up the advantages of this magnesite dressing over that of plaster-of-Paris when used alone.

Penetrability.—The Roentgen ray penetrability as compared with plaster-of-Paris has been estimated by taking equal thicknesses of the set plasters, placing them side by side and radiographing them. As near as can be judged by color, the penetrability of the magnesium compound is about twice as great as that of the calcium. As we can procure the same rigidity with casts of from one-half to one-third the thickness, we may say that the penetrability of the magnesium preparation is from four to six times that of plaster-of-Paris. Not only in fracture work is this of great advantage, but also in the treatment of bone tuberculosis. In this condition, progress may be watched by radiographing through the dressing, thus avoiding disturbing the healing parts by removal of the splint.

Hardness.—We have no means of estimating hardness accurately; deductions can only be made by a careful comparison of the magnesite and plaster-of-Paris dressings. In equal thicknesses the magnesite splint is much harder and firmer, and it is only necessary to repeat that magnesium oxichlorid is used in constructing flooring to emphasize this point. By employing a knife with a file edge I find no difficulty in cutting it. As an aid in cutting, hydrochloric acid may be used, but I have not found this often necessary.

Tenacity.—This compound is extremely tenacious, as is indicated by Sorel's statement, that it may be mixed with twenty times its weight of inert substance without losing its setting qualities. In thin layers it is also quite elastic, which is certainly a great advantage. It is not brittle and does not chip and break along its edges as does hard plaster.

Weight.—Volume for volume, the magnesium compound weights 1.3 to 1 of set plaster-of-Paris, yet the same strength can be obtained in so much thinner layers that my casts are much lighter. In Colles' fracture in adults I have used magnesite splints, extending from the fingers to the elbow, which weighed but three ounces. This great decrease in weight over the old method is much to the advantage of the patient.

Moisture.—Plaster-of-Paris casts break down and become soggy when exposed to moisture, as about a fenestrum where an open wound is being treated, for plaster is somewhat soluble in water. Moisture has apparently no effect on the magnesium compound.

In conclusion, I wish to express my thanks to Dr. Harry M. Sherman, head of my department in the university, for many suggestions derived from his long experience in handling plaster; also to the members of the faculty of the College of Chemistry at Berkeley who have given help in the chemical questions involved.

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THE VALUE OF AN ABSOLUTELY VEGETARIAN DIET IN PSORIASIS.*

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Although psoriasis is one of the most clearly defined and well recognized of all diseases of the skin, and has been the subject of much study, clinically and microscopically, we are still in the dark as to its true nature and etiology; moreover, good observers are by no means all agreed as to whether it is a local disease of the skin or one of internal origin. Certain it is that no definite cause has yet been established.

The appearance and character of the individual lesions have time and again suggested a parasitic origin, but as yet no micro-organism has been demonstrated by which the eruption can be produced artificially; nor, on the other hand, has any one constitutional state been shown to be always productive of the eruption. Certain observers have, therefore, characterized it as a local affection of the skin itself, a misbehavior of its cellular elements, even as epithelioma is recognized as such.

But there are many facts and features of the disease which point to its not being a purely local disease of the skin, but show that it is due to some underlying constitutional state or condition which at one time or another favors the development of the lesions on the skin. Not to lay too much stress on the clinical observations of many in regard to the connection of psoriasis with rheumatism and gout, hereditary or acquired, or the appearance of the eruption after vaccination, the exanthemata, debilitating illnesses, prolonged lactation, etc., there are some peculiar features which can not be ignored. Thus, the intermittent character of the eruption, often without treatment, shows some change in the individual which, even on the theory of a microbic origin of the separate lesions, causes the omnipresent micro-organisms to have effect. Also the well-known proclivity of the eruption to appear at certain seasons of the year, at which we know that the diet and mode of life vary greatly, points to a systemic change or modification of the metabolic processes favoring the eruption.

One of the most striking facts in regard to the production of the eruption of psoriasis is that relating to

* Read before the Sixth International Dermatological Congress, New York, Sept. 9, 1907.

the subject of this paper. Almost twenty years ago, at the First International Dermatological Congress,[1] held in Paris in 1889, in a "Clinical Study and Analysis of 1,000 Cases of Psoriasis," I stated that "excessive meat-eating will also increase this disease, which will frequently yield with much greater rapidity, under the same treatment as before, when the amount of meat taken is lessened, or when it is entirely cut off," as I had observed in private cases for some years. In 1895, from a clinical study of 366 cases of psoriasis in private practice,[2] I made the same statement, adding "I have a considerable number of psoriatic patients who have taken no meat, or only a very little fish and white meat of poultry, with the result of being free from the eruption for a long period of time."

In 1896 I brought the subject of "The Restriction of Meat in the Treatment of Psoriasis" before the Third International Congress of Dermatology,[3] and stated that:

Free indulgence in meat is very apt to aggravate greatly the eruption of psoriasis, whereas its restriction, especially the avoidance of beef and mutton, including extracts, strong soups, etc., will aid materially in its removal; furthermore, their continued avoidance will, I believe, contribute very greatly to a removal of the cause of the eruption, and assist in effecting a permanent cure of the disease. . . . I have careful notes of many cases where the improvement has been most marked as soon as the stringent diet has been rigidly observed, and also notes concerning many patients who have for several years maintained the same, with the most manifest gain as regard to a recurrence of the eruption.

Following up the matter since that time, I finally stated last year[4] (1906) at the American Medical Association, in a study of 2,100 cases of psoriasis, over 500 of which were seen in private practice, that:

For many years I have placed numerous psoriasis patients on a strictly vegetarian diet with most excellent results; and these results are corroborated by the fact that now and again, when one has broken through the regulations, he or she has reported a recurrence of the eruption. I make the diet absolutely vegetarian, not even allowing eggs or fish, or milk as a beverage with eating, and sometimes I have even excluded coffee and tea with advantage, and of course all distilled and fermented drinks.

RELATION OF VEGETARIAN DIET TO PSORIASIS.

The bearing of the relation of an absolutely vegetarian diet to psoriasis is understandable if one watches intelligent patients in private practice, over a number of years, with careful and repeated note-taking and study of their metabolic processes; especially when this latter is effected by means of frequent and complete quantitative analysis of the urine in all possible aspects, While psoriatic patients are commonly considered to be in perfect health they will constantly be found to exhibit assimilative disturbances, especially along the line of faulty nitrogenous metabolism and diminished (or at times greatly increased) elimination of the purin products. The variations which may be observed in the urine from time to time are most striking, often varying in the same patient from a limpid, pale secretion to one of a very high specific gravity; in one instance this reached 1.040 (no sugar), and an acidity, as measured volumetrically, of almost four times the normal, with 4.5 per cent. of urea, over double the normal amount.

Time does not permit of any elaborate consideration of the physiologic chemistry of nitrogenous metabolism as affected by a purely vegetable diet, especially as this is a practical paper based on clinical facts, but very brief mention may be made of the scientific basis for my observations.

It has been shown that the urinary discharge of uric acid does not by any means correspond with the amount of ordinary nitrogenous food ingested, but that:[5]

1. Uric acid is formed in the body by the disintegration of the albuminous substances of the tissues, especially of the nuclein or nucleins.

2. The excretion of uric acid becomes increased or diminished by all factors (diseases, medicines, poisons, etc.) which give rise to a more rapid or slower disintegration of the cellular elements of the body, and especially of the leucocytes.

Taylor[6] has demonstrated that a diet rich in nucleins, such as sweetbread, more than quadrupled the excretion of uric acid, while a heavy proteid diet hardly increased it at all; and, moreover, under an exclusively vegetable diet it was still above that found in a normal mixed diet, without coffee, while the addition of coffee more than doubled the output of uric acid. Under a carbonaceous, nitrogen-free diet it fell to 78 per cent. of normal. It is not, therefore, the much discussed element of uric acid which we have to consider, but rather the entire nitrogenous metabolism.

In the long and carefully conducted experiments of Taylor he found that under a heavy proteid diet the total excretion of nitrogen was increased almost 50 per cent., and the amount of urea passed was also almost 50 per cent. above that excreted under a normal diet. Under a vegetable diet, however, the nitrogen eliminated was reduced almost 50 per cent., as was also the urea; and finally, on a purely carbonaceous, non-nitrogenous diet, the nitrogen output and the urea were not one-quarter that passed under normal diet, with or without coffee—the latter was found to more than double both the amount of the purin bases and the uric acid.

It is now pretty well established that in health the daily excretion of uric acid is a fairly constant quantity, depending on the formation and destruction of leucocytes; also that it varies in certain diseased states, and may be increased by anything which increases the leucocytes in the blood, while in leucocythemia it has been found eight times the normal amount. Foods containing large amounts of nuclein also augment it, although ordinary proteids do not, except as they increase the leucocytes. In other words, the production of uric acid is not much affected by changes in diet.

The matter is very different, however, in regard to other outputs of nitrogen, urea, etc., of which it is stated that 73 per cent. of that ingested escapes by the kidneys. The amount of nitrogen in the urine is found to vary very definitely according to the amount of nitrogenous food taken, as has been shown by many observers.

THE URINE AS AN INDEX.

While the studies which have been made on the urine of patients with various diseases of the skin do not as yet throw the light which we could desire on the etiology of such maladies, we know enough to show that alterations in the urine, of important character, are constantly found in connection with psoriasis and some other skin affections. Among hundreds of carefully made vol-

1. Trans. First Internat. Cong. Dermatol. and Syph., Paris, 1889, p. 892.
2. Trans. Med. Soc. State of N. Y., 1895, p. 151.
3. Trans. Third Internat. Cong. of Dermatol., London, 1896, p. 734.
4. THE JOURNAL A. M. A., Nov. 17, 1906.
5. Levison: Uric Acid Diathesis, etc., Engl. translat., London, 1894.
6. Amer. Jour. Med. Sci., August 1899, cxviii, p. 141.

umetric analyses I have found in the urine of untreated psoriatic patients a greater acidity (two, three or even four times the normal), a higher specific gravity (1.030 to 1.040 being not uncommon), and increased urea (even to double the normal amount), evidences of faulty nitrogenous metabolism, or, rather, of an excessive intake of highly nitrogenized foods; as yet we know very little as to the effect of faulty metabolism of carbonaceous elements on the urine.

Knowing the effects attributed to faulty nitrogenous metabolism on other structures of the body, it is natural to suppose that prolonged errors of this nature would produce some injurious effect on the skin; and working on this hypothesis for many years I am convinced by clinical observation that psoriasis has its foundation in errors in regard to the passage of nitrogenous elements into and out of the body. How far back in the system this erroneous nitrogenous metabolism extends can not be stated, for the urine is only the index as to how more occult processes are carried out. Whether Haig's view as to the retention of uric acid in the system is correct, or whether by imperfect oxidation in the tissues of the body other irritating compounds of nitrogen are formed need not particularly concern us; the main fact to recognize is that, probably from improper diet and other causes, imperfect anabolism and catabolism of the proteids take place, and in some way either excite the skin to wrong action or render it susceptible to other causes of disease.

It would lead us still further away from the practical purpose of this paper if we attempted at all to trace the causes or methods by which this faulty nitrogenous metabolism takes place, for, indeed, a good deal of it is involved in mystery. We know that the life processes of the body are carried on by oxidation, and it is quite understandable how, by a lowering of the oxygenating powers of the system, imperfect oxidation of the proteid molecules occurs. While this process of oxidation is going on all the time in every part of the organism, it is, of course, the blood which is the active agent, both in furnishing the requisite oxygen, in various combinations, and in carrying away in turn the more or less imperfectly oxydized products of catabolism. It must be remembered, too, that it is from the arterial blood current that the kidneys seize such waste products as they may be able to handle. It is recognized also that this blood current represents the results of the final efforts of many vital organs, each contributing its quota of result in the interchange of external elements with vital tissues; and also the removal of effete or waste primary elements, in various combinations, after they have accomplished their purpose in the organism.

OTHER TREATMENT NECESSARY.

While I am strongly advocating an absolutely vegetarian diet in psoriasis, therefore, I wish emphatically to declare that this is only one element in the treatment of the disease—although perhaps the most important one. In order to obtain the best results there is constant need of careful medical supervision in order to secure the proper working of the economy in all directions, and internal and external medication are called for as necessity arises.

I know that with all that has been said in regard to the absolute avoidance of meat, many are ready to reply that some years ago exactly the opposite plan of treatment was advocated, namely, an exclusive or almost exclusive meat diet in psoriasis; this fact has been so frequently alluded to in text-books and current literature that it is necessary to devote a few words to it.

EXCLUSIVE MEAT DIET IN PSORIASIS.

In 1867 Gustav Passavant of Frankfort, Germany, in an open letter to Prof. F. V. Hebra,[7] reported his own case of psoriasis of twenty-five years standing. After trying for many years all known external and internal treatment, with but temporary benefit, he states that he was soon free of psoriasis and from an accompanying catarrh, after entering on an almost absolute meat diet, including soups, pork, fats, cod liver oil, milk, and bacon, and practically no vegetables or bread. He advised against any amount of vegetables, wine, beer, coffee and tea or spices. He cites one case of squamous eczema also relieved by this treatment.

There are a number of points in connection with this brief report which quite invalidate any importance which might be attached to it. First, Dr. Passavant does not mention if possibly he used any treatment, external or internal, in connection with the diet; then he does not state if the improvement in his condition lasted any length of time, or if he had any return to the eruption, either under the diet or without it. He refers also to only one other case, and that of eczema, which was benefited by this plan of treatment.

Finally, Hebra,[8] to whom Dr. Passavant addressed his open letter, ridiculed the claim made, some years after its publication, and, as far as I can find, there has been no subsequent corroboration in literature of the correctness of the claims of Passavant that psoriasis can be cured by a meat diet. Surely if there were any truth in it some proof would be forthcoming in the forty years which have elapsed since its publication. On the other hand, there are abundant, though brief, allusions in literature in regard to the injurious effect of excessive meat-eating in psoriasis.

More attention has been given to this matter than is perhaps warranted, but as the statement of Passavant is so often called up whenever the subject of diet in psoriasis is referred to, it is thought worth while to analyze the subject and refute the error, once for all. My personal experience in regard to the effect of diet on psoriasis extends over more than twenty years, as has been already stated.

EXPERIENCE WITH VEGETARIAN TREATMENT.

In analyzing the notes of 565 cases of psoriasis observed in private practice I find that about one-half of the cases were seen in consultation, or for but a short period, and, of course, many others only at intervals. But of those cases which were observed long and frequently enough to understand their true condition and observe the results of treatment over a long period, I find that there were forty in whom a more or less vegetarian diet was observed, and from a dozen to twenty patients who carried it out strictly, and from whom conclusions can be drawn. The limits of this paper do not admit of the presentation of the histories of individual cases.

During the earlier years the restriction was less severe and related mainly to the abstinence from beef and mutton; and even these patients noticed a marked change in the character and severity of the eruption, and often attributed a relapse to indulgence in the prohibited articles.

7. Archiv. f. Heilkunde, 1867, p. 251.
8. Lehrb. d. Hautkrankheit., 1874, i, p. 352.

But of late years I have made the diet much more strict, excluding entirely all animal food, even strong soups, poultry, eggs and fish; and I have had a number of patients for years on an absolutely vegetarian diet, only allowing butter, but not milk as a beverage, and in some cases I have excluded tea and coffee.

The effect of this cutting off the supply of animal nitrogenous food has been very remarkable and striking in many instances (a considerable amount of nitrogen is still supplied by certain vegetables, as the legumes and oatmeal). Patients continually notice the change in the color and character of the eruption, it paling and becoming less scaly, and even entirely disappearing in some weeks, with absolutely no local treatment.

In a number of instances this diet has been given to patients who had long been under my care, even for years previously, and the patients and myself have been well able to judge of the result of this radical change in the mode of life; and we have watched with great interest the often rapid improvement in the eruption, under precisely the same treatment as before, except that I commonly suspend local measures.

This treatment has been given to patients at all periods of life, from 9 to 78 years of age, and, as has been stated, has been carried out with varying degrees of fidelity. The note has been repeatedly made that when there has been a neglect of the dietary element there has been a recurrence of the eruption, which again yielded rapidly when stringent measures were enforced.

On the other hand, there have been a number of patients who have faithfully pursued this plan of treatment, in whom a long existing psoriasis has remained absent and who, having become accustomed to the diet, say that they have lost the desire for animal food and will not touch it again.

This plan of treatment has been tried on some of my patients in the New York Skin and Cancer Hospital with evident benefit, but naturally it is very difficult to carry out effectually such a measure for a long time in this class of patients. In one very striking case, however, in a young woman aged 33, who had been repeatedly in the hospital with most aggravated psoriasis, of many years' duration, the eruption, which covered almost the entire body and assumed a general exfoliative condition, disappeared entirely under an absolutely vegetarian diet and large doses of nitric acid, with no local treatment. She remained afterward many months in the hospital free from eruption, and when she went out she was seen occasionally, still faithful to treatment and free from eruption.

The oldest patient, a man 78 years of age, who had severe psoriasis all his life and had been some years under observation, showed a very remarkable improvement as soon as he was persuaded to follow this diet, some five months ago, and old thickened patches have almost disappeared.

It is not always easy to convince patients of the value of this treatment, and to secure that they shall carry out an absolute vegetarian diet with perfect strictness for a sufficient length of time or permanently; and it will often require no little insistence, as well as intelligent aid on the part of the physician, in order to effect the result desired. But after an experience with it for twenty years I know that it can be effectually accomplished, at least in a certain proportion of intelligent patients in private practice, and I have a number who are really enthusiastic on the subject and have been so for many years. If from carelessness or necessary causes, as in traveling, visiting, etc., the rules of diet are transgressed and there should be some little return of the eruption, this has yielded to a very strict observance of the dietary restrictions, with other proper treatment, better than occurs with the latter alone.

Little need be said in regard to the general subject of a vegetarian diet, for abundant experience has shown its value under many conditions of health and disease. The opinion is, I believe, gaining ground both among the medical profession and the laity that far too much meat is eaten by those who can get it; and in London, certainly, the practice of vegetarianism is increasing, as is evidenced by the large number of well-patronized restaurants which make this a specialty; these are also increasing in New York City.

In my experience patients have felt remarkably well, when this was rightly directed and carried out, and in numerous instances I have found distinct and steady gain in weight in the spare, and loss of weight in the obese, when tested repeatedly on the same scales.

Finally I wish to emphasize the fact that while an absolutely vegetarian diet is advocated in psoriasis, I believe that it has its limitations, and must be directed with care and intelligence; but that in proper cases it can control the eruption and prevent its recurrence I am confident. I wish also again to make clear that patients with this eruption at times will require in addition the most varied treatment, internal and external, in order to accomplish the quickest and best results. How internal remedies act can not yet be fully stated, but in the light of our present study they probably have their action in improving the metabolism of nitrogenous substances.

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ATYPICAL TYPHOID FEVER;

ITS PART IN PREVENTIVE MEDICINE, AND ITS DIFFERENTIAL DIAGNOSIS FROM ESTIVO-AUTUMNAL MALARIA.*

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ANCON, CANAL ZONE.

There is a class of continued fevers met with in the southern portion of the United States and in Panama, and no doubt in many other portions of the world, that are resistant to quinin; they are too long in their course to be malaria fever. They are too mild in their symptoms and too short in their course to meet the clinical requirements commonly expected of typhoid fever.

I shall discuss this class of fevers under three heads. I shall attempt, first, to prove that these fevers are typhoid fever; second, to show the important part they play in the spread and continuance of this disease, and third, give the differential points between them and malaria fever.

These fevers divide themselves into three groups or varieties, the second of this group being by far the most frequent and also most important. We have, first, a fever that continues for about one week, irregular in its course, the temperature rising scarcely above 100 F. It has no symptoms except some bronchitis and a little malaise.

Second, a fever that continues from seven to ten days, with a temperature which may reach as high as 102 F. or more. There may be few or no symptoms

* Read before the Nashville Academy of Medicine, Oct. 1, 1907.

in this class, but there is generally headache, bronchitis, some reddening and coating of the tongue. The patient is willing to keep his bed. The appetite remains good, and abdominal symptoms are absent.

Third, a fever ranging from normal temperature to 100 degrees F. or a little above and continuing for two weeks or more. In this class of fevers we have all the usual symptoms of the typical typhoid fever. There is low muttering delirium, sometimes wild mania; a red, pointed tongue, tympanites, and retention of urine.

After the close of defervescence there is nearly always a second rise of the temperature lasting a variable length of time and corresponding to the second rise or "febris carnis" in the more typical cases.

These three groups are fairly representative of this interesting class of fevers. As stated in the beginning, the second group of these fevers is by far the most important. It occurs most frequently; it gives the greatest difficulty in differentiating it from malaria fever. It is nearly always accompanied with bronchitis, sometimes severe. One lobe of the lung may be dull on percussion, and suppressed breathing may be noted on auscultation. The bronchitis disappears early with free mucopurulent expectoration. Where malaria is not prevalent it is easy to mistake these cases for acute bronchitis or sporadic influenza, and no doubt this is done in many instances where typhoid fever is not epidemic.

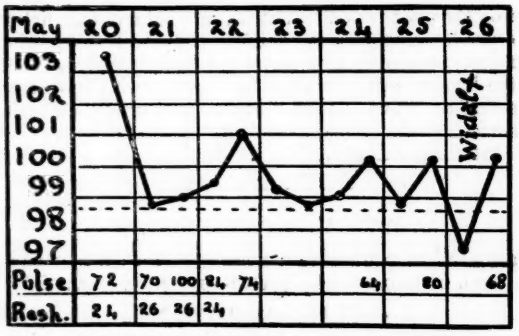

Fig. 1.—Temperature chart of Case 2, Class I, showing curve during first week of illness; during the rest of the illness the temperature was practically afebrile.

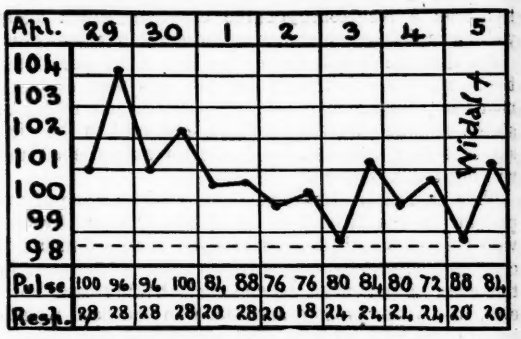

Fig. 2.—Temperature chart of Case 3, Class II, showing curve during first week of illness; after this time the temperature was practically afebrile.

I am fully convinced that these fevers are typhoid fever: Because their numbers always increase as the number of the typical typhoid fevers increase; they occur in the same houses and same surroundings from which we meet or receive the typical cases; they frequently relapse, and the relapse may be, and often is, more severe than the initial attack; they give about the same proportion of positive Widal reactions as the typical cases, as I shall show later. And, finally, I have had occasion to see two postmortem examinations here on this class of cases which showed beyond any further question that they are typhoid fever—one died in relapse,[1] one from perforation.[2]

While the fevers of this class are very characteristic, they can not be placed in a category to themselves. As already remarked, they seem to hinge on the typical forms as is shown by the severe relapses that sometimes occur. And it is my opinion from a long observation in the southern United States and here that they are often the forerunners of the severer forms rather than the result of a decrease in the virulence of the specific agent.

1. Records Pathol. Lab., Ancon Hospital. 1906.
2. Records Pathol. Lab., Ancon Hospital, 1907.

The morphologic changes that take place in the ileum and other structures, in the most of such cases as these, we can assume only by inference. That we have merely a slight reaction going on in Peyer's patches and the solitary follicles, with slight swelling of the mesenteric lymph nodes which early tends toward resolution, is reasonable to suppose.

It is not at all necessary that all cases should go on to necrosis and sloughing, for typhoid fever like any other specific disease, depends for the severity of its symptoms on the amount of the infection present, the virulence of the infectious agent, and the resistance of the host. Hence we may and do have this fever varying in its symptoms between wide extremes; from merely fever with no symptoms up to subsultus tendinum, coma vigil, simulation of cerebrospinal meningitis, to those dying within a few days with the overwhelming toxemia, with merely a slight hyperplasia in the intestinal tract to account for the onslaught.[2]

But in spite of these reasonable conclusions, when it comes to diagnosing these mild, irregular fevers as typhoid fever, it takes courage to do it in the face of the commonly-accepted belief of this disease, and we all doubt and hesitate even when all the evidence is in our favor.

This tendency to doubt, this tendency to hesitate, or even not to diagnose at all, does no harm in most cases so far as the patient himself is concerned, but with reference to the welfare of the community it becomes indeed a serious matter.

In these irregular cases every opportunity is present for the spread of the disease. They are usually unrecognized as typhoid fever and no effort is made toward disinfecting the patients excreta; they are not reported to the sanitarian, and nothing is done toward general sanitation about the patient's surroundings. Contamination occurs and there is then but one result—an epidemic. Thus these cases become the root from which this disease springs perennial and are almost solely responsible for its continuance.

In April, 1905, we had the first known case of typhoid fever in the Canal Zone since the American occupation. This case appeared among some recruits in the United States Marine Corps at Camp Elliott, Empire. From there it spread to some contiguous labor camps, Lirio and Gold Hill, thence to the towns of Empire, Las Cascadas and Bas Obispo, in these instances following the course of the watershed. In the meantime sporadic cases began to come from towns on the Panama side of the Culebra divide, where it was not possible to spread

from the water supply. With this case and such imported cases as may have come on the Isthmus from time to time the disease has spread until in April, 1907, every camp and town from Panama to Colon was sending to the hospitals its quota of cases of typhoid fever. And this occurred in the face of one of the best equipped sanitary corps to be found anywhere. The reason for this state of affairs was simply that practically 30 per cent. of all the cases were passing through our hands diagnosed "clinical malaria fever."

I know there are records of chronic "typhoid carriers" that can spread the disease for an indefinite time and these no doubt contributed to our epidemic, but they are of small account when compared to this large percentage of atypical typhoid fever, undiagnosed and unreported. This is a class of cases that accounts for the epidemics of small towns and cities; causes it to follow up large bodies of soldiers; the spread in labor camps, and to continue endemic in most of the large centers of population.

Typhoid fever is a preventable disease and should in time, like typhus fever, become extinct. This can never be until physicians widen their conception of what constitutes typhoid fever and, instead of always expecting the typical, diagnose and treat, from a sanitary point of view, all continued fevers as typhoid fever until they are proved to be something else.

I shall now take up a few case reports and afterward analyze two hundred cases studied for use in this paper, to show what proportion these irregular forms bear to the whole in a series of average severity.

This study was made on negroes from the West India Islands. The time stated as the beginning of their illness is when they found themselves no longer able to work. On account of their color no observation of rose spots could be made.

CLASS I.

CASE 1.—*History.*—E. F., Barbadian, aged 20, illness began eight days before admission with pains in arms and legs. Physical examination negative. Stools showed *Ascaris* ova; urine, albumin 3 per cent.; blood, negative for malarial parasites. Widal test positive on twenty-first day after admission.

CASE. 2.—*History.*— J. H., Barbadian, aged 25; on the Isthmus six months. Present illness began four days before admission with dizziness and headache, slight cough and bronchitis. Physical examination negative. Blood negative for malarial parasites; urine, negative; stool contained the ova of Uncinaria and Ascaris. Widal test positive seventh day after admission. Figure 1 shows temperature curve for first week after admission; through the rest of the illness the temperature was afebrile.

CLASS II.

CASE 3.—*History.*—L. C., Barbadian, aged 26; on the Isthmus twelve months; second illness. Illness began five days before admission, with fever, headache and vomiting. Physical examination negative, except tenderness over spleen. Blood, negative for malarial parasites; urine, negative; stools negative. Widal test positive seven days after admission. Fourteen days after discharge patient returned to hospital with a severe relapse lasting over twenty-eight days. Widal test again positive. Figure 2 shows temperature curve for first week after admission; through the rest of the illness the temperature was afebrile.

CASE 4.—*History.*—A. H., Barbadian, aged 19; on the Isthmus five months. Present illness began five days before admission with chills, fever and sweats, dizziness, headache and cough. Physical examination negative. Blood positive for malarial parasites (infection heavy—estivo-autumnal rings and young tertian). Urine showed a trace of albumin with a few granular casts. Ova of *uncinaria, ascaris, tricocephalus dispar* with ciliated monads in stools. On the fifth, sixth ninth and eleventh days after admission the blood was negative for malarial parasites. On the eighth day after admission the Widal reaction was negative; on the tenth day suspicious and on the twelfth day positive. Figure 3 shows temperature curve for the entire course of the illness.

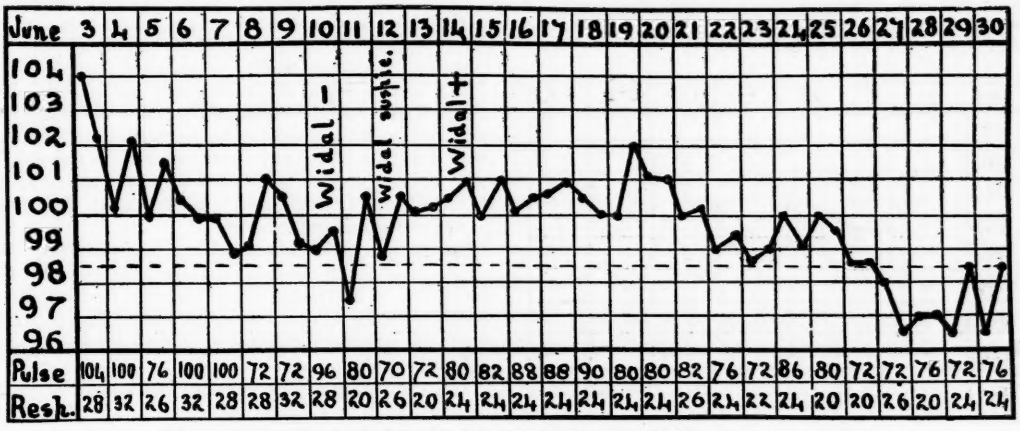

Fig. 3.—Temperature chart of Case 4, Class II, showing curve during entire course of illness.

CASE 5.—*History.*—J. A., Guadeloupe, aged 35; on the Isthmus one month. Illness began three days before admission with headache, fever, vomiting, pain in abdomen and cough. Examination of the lungs disclosed sibilant râles over the entire area. The spleen was enlarged and tender; heart and liver were negative. Blood was negative for malarial parasites. Urine, albumin 3 per cent.; stools contained ova of *ascaris* and *tricocephalus dispar*. Patient died at 7:20 a. m. eighth day after admission. Pathologic diagnosis: typhoid fever with perforating peritonitis. Figure 4 shows temperature curve from the time of admission until death.

CLASS III.

CASE 6.—*History.*—J. G., Grenadan, aged 22. Illness began three days before admission, with cramp in the bowels. Examination of the lungs disclosed friction and bronchial râles over both bases. Heart had a hemic murmur at apex. Urine negative; stools contained the ova of *Uncinaria* and *Tricocephalus dispar*. Blood was negative for malarial organisms; hemoglobin 46 per cent.; fourth day after admission leucocyte count was 17,000; fifth day 20,000; ninth day 9,000. On the ninth day the Widal reaction was negative; on the tenth day suspicious and on the twelfth and fourteenth days Widal reaction positive. Figure 5 shows temperature curve in the case.

CASE 7.—*History.*—W. I., Barbadian, aged 26; on the Isthmus six months. Present illness began seven days before admission with fever and headache. Physical examination negative. Blood positive for malaria. Abdomen tympanitic; retention of urine. Patient in stupor with muttering delirium; unable to answer questions. Widal reaction positive on the second, third and fifth days, respectively, after admission. Twenty-six days after admission sudden pain in the abdomen with sharp rise in temperature. Operation for perforation showed volvulus. Relapse followed. Throughout the course of the disease the temperature was practically afebrile, except when volvulus occurred.

On analyzing 200 cases we note 64 atypical cases, or 32 per cent. of the total. The deaths were 24, or 12 per cent. Of the complications there was intestinal hemorrhage in 3, perforation in 3, phlebitis in 3, gangrene from phlebitis in 1, acute suppurative endarteritis (aneurism) of common iliac artery in 1, malarial parasites 8 per cent.

The Widal reaction was positive in 58 per cent., negative suspicious in 8 per cent. and negative in 31 per cent.

In 27 cases the Widal test was requested one time, in 12 cases the Widal was requested twice, in 19 cases no Widal tests were requested. Of the 64 atypical cases Widal reaction was positive in 53 per cent., negative suspicious in 10 per cent. and negative in 36 per cent. In 11 cases no Widal was requested.

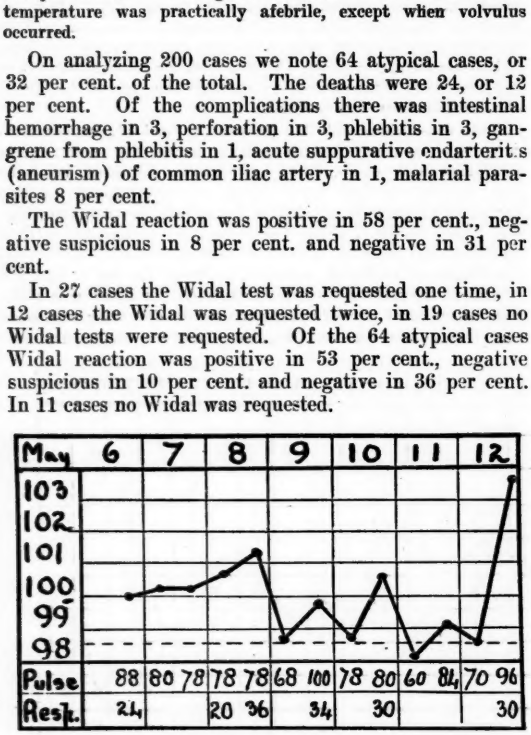

Fig. 4.—Temperature chart of Case 5, Class II, showing curve from time of admission until death.

It is of special interest to note the striking ratio of positive Widal reactions in these atypical cases to those in the whole series.

This at first glance is apparently a low percentage of positive Widal reactions, but I am sure this is as high as can be expected in average institutional work and much higher than need be expected by the general practitioner. There are so many undetermined factors in the phenomenon of Widal's test that the physician need not hesitate to make a diagnosis in the absence of a positive when the symptoms of the disease are present.

To illustrate: Five severe clinical cases of typhoid fever in which blood cultures have been made and followed up by Widal's, in our usual way, give results as follows: 3 cases showed *Bacillus typhosus* in pure culture; 2 cases showed *B. paracolon* in pure culture.

The Widal tests were: Case 1, *B. typhosus,* 2 Widal tests made; 2 positive. Case 2, *B. typhosus,* 3 tests made; 1 negative, 1 positive, 1 negative. Case 3, *B. typhosus,* 9 tests made; 1 negative, 1 positive and 7 negative. Case 4, *B. paracolon;* 10 tests made; 1 negative, 2 positive and 7 negative. Case 5, *B. paracolon;* 10 tests made; all negative. These negatives and positives are in the order as named here.

Hence, we see how easily a slight delay or even a change in date might have modified the entire results.

MALARIA.

It is now necessary to make a brief review of malarial fever. The quartan and tertian need not be considered here, as they have no bearing on the diagnosis of typhoid fever. I shall then consider only the quotidian or remittent form. We use the form "estivo-autumnal" here and sometimes the simple "malaria fever." I shall speak of it in what follows as "malaria fever."

Malaria fever is one of the most widely known of all diseases and perhaps is the most common disease met with, and, paradoxically, it is apparently the least understood. The symptoms attributed to malaria fever are as varied as the idiosyncrasies of the observers. There is only one definite demand made of it, and that is that it shall have a reasonably short duration.

We have been slowly learning malaria since Laveran's discovery of its parasite, and as our knowledge increases we are constantly limiting it within narrower and narrower bounds.

We have found here that no disease is free from its complications, except such diseases as have a high leucocytosis, and it is frequently present in the earlier stages of this class of diseases. We have found also that any affection, more or less trivial itself, may complicate malaria and therefore modify its normal symptoms and course, in any degree in proportion to the gravity of the complication. These facts are perhaps not sufficiently well known, and observers when finding the parasites present in the blood have been content to assume that all symptoms present were caused by the malaria organisms. Thus it is that this disease has given the impression of such an infinite variety.

The fact is malaria fever is extremely definite in its febrile course. Its fever is characteristic, and to a close observer it is a striking phenomenon; its daily remissions, its daily exacerbations, within a fairly definite time, and its symptoms also vary with its fever and in like proportion.

And the reason: The cause of malaria fever, unlike the cause of typhoid fever, produces no organic lesions, and all its clinical symptoms must depend on certain stages of the developmental cycle of its parasite. As is well known, the organisms pass through this cycle in a fairly definite time, it must follow that the clinical manifestations correspond to this phenomenon. The amount of the infection or the gravity of the same seems to in no wise cause it to vary from this general law.

I begin the next step in this paper with much trepidation. I am fully mindful of the enormous weight of the authorities that are against what I shall further have to say. Laveran,[3] Manson,[4] Thayer[5] and many others believe and teach that if estivo-autumnal malaria fever be long neglected or indifferently treated the parasites will develop in such rapid succession as to make the fever a continued one. It is as reasonable to expect the tertian or quartan to do the same thing under similar circumstances, but no one claims more in a tertian or quartan than a doubling. Why then should we expect an estivo-autumnal to vary its phenomenon to any greater degree?

The charts I have seen to illustrate this hypothesis will not bear very close analysis. They have nothing

3. Encyclopedie Scientifique des aide Memoire du Paludisme.
4. Tropical Diseases, 1905.
5. Lectures on the Malaria Fevers, 1897.

in proof of the diagnosis except the presence of malaria parasites, and the presence of the parasites does not prove anything positive except the fact of malaria as a complication. We can show thousands of charts of diseases, such as typhoid fever, yellow fever, measles and, in short, anything that had not a normal high leucocytosis that had malaria parasites in the blood, and even those that had a leucocytosis frequently had malaria parasites present in the early stages of the disease.

That crop after crop of these parasites having different ages may develop one on the other is a perfectly reasonable hypothesis. But that they do not do this is one of the especially marked peculiarities of malaria. There can be no worse forms or greater infections than those that cause death, and yet they follow the law of periodicity, as shown by temperature charts of patients that have died here of malaria fever.

From our experience here and the records of this institution, I fail to find any verification of the accepted teaching. And it seems to me that if there is any place in the world where malaria would show itself to the worst advantage it would be on the Isthmus of Panama. We have the conditions here to produce it; we have ignorance and prejudice among these people to deal with; we gather in those who are unable to have the proper care in their illness, but so far the Isthmus has not produced any cases corresponding to this teaching. We

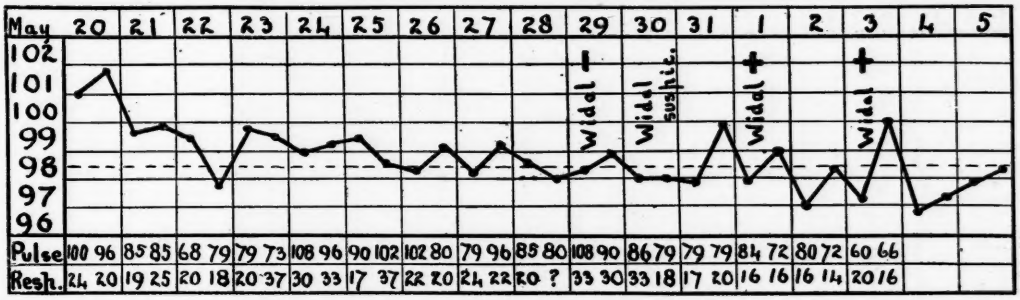

Fig. 5.—Temperature chart of Case 6, Class III, showing curve during entire course of disease. Note the results of tests for the Widal reaction.

have continued fevers here with malaria parasites in the blood, many of them, but those of this class that go to autopsy show the lesions of typhoid fever, and those that recover show a sufficiently large percentage of positive Widal reactions to satisfy my mind that we are really dealing with typhoid fever or its next-door neighbor, para-typhoid.

I will now take up the analysis of five hundred cases of estivo-autumnal malaria fever treated in this hospital. Each case showed on admission the presence of malaria organisms, and in a few cases some complications were noted on the case histories. The varieties of the parasites, whether pigmented or non-pigmented, is not often stated; however, the non-pigmented is most frequently seen. This will show the length of the febrile period of cases when properly treated. All fevers are considered normal only when they have remained normal until discharged from the hospital. Thirty grains of sulphate of quinin in solution is the usual daily dose in ordinary cases; this is increased by mouth or hypodermatically or by intravenous injections as the urgency of the case may indicate. Two hundred of the cases are in natives and West India negroes, 140 are in white Americans and white Europeans, 160 are mixed. By making such a division it is expected to give a fair average, as it includes acclimated, partially acclimated and non-acclimated.

The results are: One case lasted 11 days. The fever continued 5 days after admission, then an intermission of 3 days, and a second rise for 3 days, making in all eleven days of fever. Seven patients had fever from 7 to 8 days; 5 patients had fever 6 days; 27 patients had fever 5 days; 214 patients had fever from 3 to 4 days; 233 patients had fever from 1 to 2 days; 13 patients had no rise of fever after admission.

We see by the foregoing analysis of 500 cases that the longest period of time a fever may last under quinin is eight days. Six of these seven cases running from seven to eight days showed complications, and this raises a doubt in my mind about the one remaining case, especially as we find only five cases continuing six days. Of cases of sufficient severity to cause death the longest period of time from admission until death was four days, twelve hours and forty-five minutes. The average length of time after admission until death has been about thirty-seven hours.

This is conclusive proof that malaria fever, if at all amenable to treatment, yields promptly, and that if not amenable it is even more prompt in causing death.

We may state then as a medical axiom: A fever which fails to yield to full doses of quinin in five days, although malaria parasites are present in the blood, is not simply and solely malaria fever, and the physician must look further for its cause.

In summing up typhoid and malaria fever from these analyses and the causes we see little or nothing in common between them, and there is no reason why there should be. The cause of the symptoms in malarial fever is an extremely simple process, while the cause of the symptoms in typhoid fever is a peculiarly complex one.

Typhoid fever may be remittent, but it shows no tendency to periodicity in these remissions. In the third or fourth week of the disease, however, in most cases we have a perfect quotidian remittent fever. But if typhoid fever is seen first in this late stage it then presents all the classical signs of the disease and will give little or no trouble in making a diagnosis. On the other hand, if malaria is seen for the first time late in the disease, when the patient is not moribund, the result will be entirely the reverse. There will be extreme restlessness, pain in the back and legs, severe vomiting, and often uncontrollable hiccough. Delirium may or may not be present. Emaciation in uncomplicated malaria is never present. Lastly, if we can not separate our symptoms satisfactorily we have left us the unscientific but sure therapeutic test—quinin.

When a fever, therefore, continues unyielding five

days to full doses of quinin and shows no physical signs or demonstrable bacteriologic cause other than malaria parasites, it is perfectly safe to assume it to be typhoid fever.

Subsequently such a fever may prove itself to be tuberculosis, early liver abscess (in the tropics) or a febrile syphilis, etc. But such a contingency will be rare except for miliary tuberculosis—I have made this mistake five times in 205 cases. If we do err, however, our error will be on the side of safety both for the patient and for the community as well.

SUMMARY.

These irregular fevers are typhoid fever.

Their chief interest and importance is from a sanitary point of view. They are beyond doubt the most dangerous of all forms of typhoid fever as spreaders of the disease.

Their diagnosis is difficult because of our erroneous ideas of what symptoms we expect in order to conclude a clinical diagnosis. The word "typhoid" suggests to our minds a certain state or condition—which any disease may show if it continues a sufficient length of time—and this is one of the chief causes of our error in diagnosing typhoid fever.

Early diagnosis and prompt reports are our only safe method of preventing this disease. We can not wait for classical symptoms of typhoid fever, nor on the long and tedious confirmation by Widal test.

On account of the widespread prevalence of typhoid fever, therefore, any continued fever, no matter how mild or irregular its course, which has no physical findings for its cause or which shows no demonstrable bacteriologic findings by the ordinary methods, should be diagnosed as typhoid fever until time proves it to be otherwise.

These conclusions are not based alone on the few facts cited in this paper, but in addition to these on an experience of three years in this institution, where the admissions have already reached into the thirty thousands; where in every medical case the microscope begins the diagnosis and is brought to bear from time to time as the case may indicate, and where, lastly, when the patient has finished with all earthly things, the diagnosis is concluded on the postmortem table and in the pathologic laboratory with the microscope.

OBSERVATIONS ON THE FAILURE OF THE RADIAL PULSE WHEN THE ARMS ARE ELEVATED.

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The phenomena about to be described are so easily elicited and, at times, are so obtrusive in the routine of clinical examination that it is impossible they should have altogether escaped the attention of observers. Yet, with the exceptions noted below, I can find no definite account of the subject and am convinced that it has, at least, not become a part of general knowledge. A rather prolonged study of the facts involved has shown that their explanation demands careful consideration; and in view of the lack of crucial evidence as to their full meaning an attempt will be made in this essay to distinguish as sharply as possible the objective facts from their interpretation.

THE METHOD OF EXAMINATION AND THE GENERAL RESULTS OBTAINED.

In a considerable proportion of persons, one or both radial pulses may fail at the wrist when the arms are passively stretched above the head. In carrying out the experiment the subject under observation should be seated comfortably, with the mind passive and the body erect. The observer stands opposite and gently clasps each wrist of the subject by circling it with the thumb and forefinger, using the middle and ring fingers to palpate the respective radial pulses.

The arms of the subject are now lifted by the observer until they occupy approximately a vertical position. During this maneuver the pulse of the subject is steadily palpated, and if it undergoes no marked change the subject is told to breathe deeply; this modification of respiration frequently induces pulse changes not apparent under ordinary conditions. Following are the chief results that may thus be obtained: 1. In relatively few persons the pulses become more distinct when the arms are raised. 2. In the majority of people the pulses weaken, and the blood pressure in the radial arteries evidently falls under these conditions. In my observations the merely weakened pulse was classed with the strong; only cases in which the pulse completely failed under both fingers applied to the artery were considered pulse failures. 3. In a considerable proportion of persons one radial pulse, usually the left, completely disappears when the arms have been elevated to a certain angle, say 60° above the horizontal. Lowering the arms gradually, the lost pulse returns; but it is at once seen that the phase of respiratory movement controls the pulse status, for the pulse only returns, first, either during the movement of inspiration or that of expiration, becoming fully restored only when the arms are brought still lower. In the other arm the radial pulse may also completely fail when the member has been raised to a position more nearly approaching the vertical than was necessary in the first case. 4. Frequently, though the pulses remain during quiet breathing with the arms extended upward, if the respiration be deepened one or both pulses may completely fail, the failure usually being limited to a single phase of respiratory movement. A pulse which has remained during quiet breathing may, as the result of a single deep breath, afterward fail in ordinary inspiration or expiration. 5. The respiratory and other characteristics of pulse failure in the same person usually remain the same, even over intervals of many months; but in different subjects the completeness and rhythm of the pulse failure as regards the respiratory cycle manifest every conceivable variety. Thus, the pulse in either elevated wrist may remain absent throughout both phases of gentle respiration, or it may fail except at the beginning of inspiration or only at the end of expiration, or the failure may cover apparently any portion of the respiratory cycle, though evidently being initiated by extremes of inspiration or of expiration. When the respiration is deepened pulse failure is usually accentuated, but, on the contrary, deep breathing not infrequently restores the pulse, and usually markedly strengthens it in the phases of no failure. 6. In exceptional instances, the radial pulses in the elevated wrists disappear in opposite phases of respiration; for example, the right radial pulse may fail only in inspiration, while, during these same observations, the left radial fails only in expiration. Somewhat more frequently, during a prolonged experiment, the respira-

tory phase of a pulse failure may become reversed; that is, the pulse which failed in inspiration in an early observation may be lost only in expiration later on. Such results are comparatively rare, but especially important from a theoretical point of view. 7. No matter how obvious the phenomenon of pulse failure under the conditions described, when the subject assumes the supine position with the arms held vertically upward, the pulse always remains strong at the wrists. Even when, in a subject sitting upright in a rocking chair, the pulses fail obviously in the elevated wrists, the radial arteries again begin to beat when the subject leans slightly backward, say at an angle of 20 degrees from the vertical. In leaning forward, however, the pulse, lost in the upright posture, does not return.

ABSTRACT OF EXPERIMENTAL DATA.

My records are founded on observations made on 410 different persons, including normal individuals as well as subjects of various disorders, acute and chronic. In many instances the same person was repeatedly studied at successive intervals during a year's time and under different conditions of physical well-being. Of the 410 individuals studied 208 were males and 202 females. Arranged according to the decades of life, 9 cases were in the first, in 44 per cent. of which one or both radial pulses failed when the arms were raised; 42 in the second, with 69 per cent. of pulse failures; 131 in the third, with 55 per cent. of failures; 88 in the fourth, with 50 per cent. of failures; 62 in the fifth, with 40 per cent. of failures; 43 in the sixth, with 19 per cent. of failures; 27 in the seventh, with 7 per cent. of failures; 3 in the eighth and 1 in the ninth, with no failures. As regards the results of the observations: In 225 persons, 55 per cent., there was no complete pulse failure in the elevated wrists under any condition of respiration. In 60 persons the results were variable, the pulse occasionally failing in one or both radials, but again reappearing. In the remaining 125 persons there was always a loss of the pulse in one or both radial arteries during a portion or the whole of the respiratory cycle; that is, at least occasional pulse failure occurred in 45 per cent. of the persons placed on record. This proportion is probably too high, since, naturally, a certain number of cases were recorded when it was noticed that they belonged to the category of "pulse failure," which would not otherwise have been noticed. As to other results of the observations: The pulse failed in the right radial artery alone in 38 cases; in the left alone in 78 cases; in both arteries in 66 cases. The pulse failure occurred during inspiration only in 52 cases; during expiration only in 6 cases; during both inspiration and expiration in 124 cases.

PHYSIOLOGIC AND PATHOLOGIC STATES WHICH DETERMINE PULSE FAILURE.

In a given normal individual the constitutional peculiarities which determine failure of the radial pulse when the arms are raised are more or less permanent; the same characteristics in the pulse may be detected month after month. Nevertheless, there are found in the same person marked variations in the completeness of the reaction according to the "physiologic tone" of his organism. The more vigorous the state of health the less inclined is the radial pulse to fail under the conditions indicated. Thus, in a hospital interne who had been closely confined to ward and laboratory work for many weeks, one or both radial pulses disappeared completely, first, in expiration, then throughout the respiratory cycle, as the arms were gradually elevated above the horizontal. Later on, the duties of this interne took him out of doors; his general appearance betokened increased physical vigor, and after several months of the more hygienic life there could be elicited relatively slight signs of pulse failure. Healthy young women serving as hospital nurses are apt to manifest pulse failure in the elevated wrists, especially when more or less run down after a prolonged service. On the other hand, in persons examined because they seemed to represent types of vigorous health I have rarely found marked evidence of pulse failure.

In acute febrile conditions, the patients sitting in bed, it is extremely rarely that the pulses fail when the arms are elevated. During convalescence, however, pulse failure is often detected. In general, it may be said, any abnormal outflow of nervous energy inhibits pulse failure. Thus it often occurs that when the wrists of a subject are raised and a pulse is found to disappear, the beat at once returns if the subject laughs or becomes agitated in any way. As will be more specifically mentioned later, nervous impressions may overcome the influence of gravity; thus, the radial pulses which fail when the arms are raised easily without stretching the tissues of the shoulder joint, may at once return when the hands are pulled somewhat forcibly upward.

There seems to be a peculiarly close relation between valvular heart disease and the pulse failure under discussion. In cases of heart disease with broken compensation I have never found the radial pulse to disappear when the arms are raised; this has been found true in a case nearing a fatal termination with a maximal arterial pressure about 90 mm. Hg. In cases of valvular heart disease, not marked by arteriosclerosis, in which compensation is good, the pulse, in my experience, nearly always fails more or less completely when the arms are raised. On several occasions I have had the opportunity of studying these pulse reactions both in patients undergoing their first attack of endocarditis and in those passing through the cycles of broken and restored compensation incident to chronic heart disease. The conclusion seems unavoidable that acute cardiac inflammation or break in the compensation of cardiac defects inhibits a tendency to pulse failure which is otherwise marked in cases in which inflammation is allayed and compensation is restored. This point is dwelt on because, whatever the true interpretation of the pulse failure, it is a matter of profoundly practical importance to the clinician, who is guiding a patient through an attack of acute endocarditis, to command some reliable sign of such reestablishment of physiologic coordination as will justify permission for the invalid to indulge in physical exertion. The most extraordinary instances of pulse failure that I have encountered have been in persons who had formerly been subjects of bronchial asthma or were enjoying more or less respite from the paroxysms. During an asthmatic attack the pulse does not fail. An abstract of a few of many notes made on two appropriate cases may better illustrate the point.

CASE 1.—Mr. W., aged 35, has suffered from asthmatic paroxysms for ten years. Improved since coming to Colorado two months ago. Dry bronchial râles are heard throughout the chest, and there is percussion dulness at the apices. While the patient is suffering from a slight asthmatic seizure, the radial pulses remain when the arms are raised. Some days later the pulmonary signs and the subjective symptoms are improved. The patient sits on a chair and his hands are lifted

above the head. The radial pulses remain during gentle breathing, but with somewhat deepened respiration both pulses disappear throughout the phase of inspiration; the arms are lowered until the hands rest on the knees, and the pulses still continue to fail during deep inspiration. On a later date the left radial pulse fails in the same way during gentle inspiration, while the right radial persists even throughout deep respiration. During the phase of expiration the pulses are much larger than normal.

CASE 2.—Miss I., aged 18. Suffered from asthma all her life until she came to Denver two years ago, since when she has been free from attacks. Patient's lungs practically normal. Sitting in bed, the left radial pulse fails during ordinary inspiration, when the arms are depressed about 45 degrees below the horizontal (the forearm being bent at the elbow and held vertically). When the arms are raised to an angle of about 50 degrees above the horizontal both radial pulses fail throughout ordinary respiration. When the patient lies supine, the arms being held vertical, both pulses return strongly.

These are simply somewhat exaggerated examples of similar results obtained in other cases, both normal and pathologic. Of definite anatomic conditions which interdict the described pulse failure, extensive arteriosclerosis is the most constant.

Evidence will be given later on for the belief that the persistence of the pulse in debilitated subjects of arteriosclerosis is a sign that the sclerosis involves the splanchnic arteries. In certain of such cases the arterial hypertension can be controlled by the administration of nitrites and in others not. In the former class, when arterial blood pressure has been lowered by nitrites, the pulse weakens much when the hands are raised, in the latter not.

PHYSICAL AND PHYSIOLOGIC CONDITIONS WHICH DETERMINE PULSE FAILURE IN THE ELEVATED ARTERIES.

1. *Influence of Gravity.*—As already noted, when sitting erect a person may lose the radial pulses when his arms are raised to a variable angle above or even below the horizontal; but when the supine position is assumed and the arms are sustained in a vertical position, the pulses return strongly at the wrist. It seems obvious that gravitation of the blood must be the ruling factor in this difference. Striking evidence of the influence of gravity on maximal arterial blood pressure is presented by Stevens,[1] who found that in a healthy man lying on his side the maximal blood pressure taken in the upper arm averaged 112 mm. Hg, as against 155.5 mm. in the lower arm. In the present work many experiments were made to determine the influence on the elevated radial pulse of gravitation of blood into the abdominal vessels or the lower limbs. A chair was constructed whose seat could be raised to any desired height above the floor and which was supplied with an adjustable back rest. To the front edge of the seat was hinged a board nearly two feet in length. In carrying out an observation the subject was seated on the chair, with feet hanging free or resting on the floor, with the thighs inclined downward. The arms of the subject were now lifted by the observer and the occurrence of pulse failure remarked. While the results were being noted an assistant raised the free end of the swinging board, thus lifting the feet of the subject to the level of the pelvis, the thighs inclining somewhat upward. The observer at the same time noted any change undergone by the pulse in the elevated radials. Observations carried out in this manner showed no constant results; in some persons the pulse in the elevated wrists failed more readily when the legs were dependent than when raised; in others the reverse was the case. Often change in level of the legs had no special influence on the radial pulse. Marked alteration of pulse rate on changing the level of the legs was noted in but one instance, as follows:

CASE 3.—Mr. H., aged about 32. Seated, legs hanging free. Wrists held up, forearms vertical and arms about horizontal; the right radial pulse fails completely except for two beats at the beginning of inspiration; the left radial pulse remains unchanged; its rate is 100 per minute. The legs are now raised; the respective pulses remain as before, but the rate of the left radial drops to 82. The legs are again lowered; the right radial pulse becomes stronger for a moment and then returns to its former condition; the rate of the left radial rises to 96.

No demonstration could be clearer that the pulse rate *per se* has nothing to do with the pulse failure under discussion.

Observations carried out on subjects in a standing as compared with a sitting position showed a slight but not decided excess of pulse failure in the former posture. It may, therefore, be concluded that gravitation into the vessels of the lower extremities plays no important part as a cause of failure of the elevated radial pulse.

It might naturally be concluded, even without the important teachings of Leonard Hill,[2] that simple gravitation into the abdominal vessels would amply account for loss of pulse in the elevated radial arteries. That the problem is not so simple is obvious for the following reasons: 1. In the supine position the pulses do not fail with the arms vertical. 2. Mere gravitation should affect nearly equally the two pulses, whereas it is common for one pulse to fail completely while the other remains strong. 3. It occasionally occurs that both radial pulses completely fail when the wrists are held at about the level of the eyes; if this effect were produced by mere gravity there should be a coincident anemia of the brain, which would provoke obvious symptoms. I have observed, on the contrary, that when dizziness supervenes as the result of deep respiration, pulses which had failed tend to return during the nervous disturbance.

In my experiments it was attempted to estimate the effect on pulse failure of drainage into the abdominal vessels by compressing the abdomen. With the subject sitting upright and his back well supported, a pillow was laid across the abdomen and kept in place by a strap, the free ends of which were held by an assistant standing behind the chair. At the word of command the strap was drawn tight and the pillow firmly pressed against the abdomen; the observer in the meanwhile, of course, noted any changes in the character of the elevated pulses. When pressure is applied to the abdomen in this manner the radial pulses, which may have weakened or failed in the suspended wrists, usually grow stronger, or return if absent; on the contrary, there is a weakening of the pulses when the abdominal pressure is released. When the pressure is applied the pulse rate may suddenly drop ten or more beats in the minute due, no doubt, to vagus inhibition excited by the heightened arterial pressure. It has been noticed that even the constriction from the waistband of a garment may interfere with the disappearance of a pulse which is mani-

1. Blood Pressure and Pulse Rate as Influenced by Different Positions of the Body. THE JOURNAL A. M. A., October, 1904.

2. Influence of the Force of Gravity on the Circulation of the Blood. Jour. Physiology, xviii, 15, 1895.

fest when the abdomen is free. The conclusion, from numerous observations, was that compression of the abdomen tends to restore a pulse which has failed, and that sudden release of the pressure is followed by a weakening or failure of the pulse. Nevertheless, the effects on the radial pulse of compression or decompression of the abdomen seem quite insufficient to support the conclusion that the sole cause of pulse failure in the elevated wrists is hydrostatic drainage into the abdominal vessels. It is barely possible that variations in the tension of the abdominal wall may account for some curious results, already mentioned, of changing the inclination of the body. When, namely, a favorable subject sits in a rocking chair, with the body erect and the arms held up, one or both radial pulses fail completely. As the subject leans gradually backward, the arms at the same time becoming more nearly vertical, the pulses return when the axis of the body has reached a slight inclination, estimated as not more than 30 degrees from the vertical. As the erect posture is resumed the pulse or pulses again fail and continue absent with a forward inclination of the body much greater than the angle at which they were restored in leaning backward. These results suggest the inquiry as to whether there is not a specific coordination between the tension of the abdominal wall and splanchnic vasomotor activity in the sense that they increase and decrease together. It has been noticed, in persons whose pulses fail when the arms are raised, that an attack of abdominal neuralgia temporarily does away with the phenomenon.

It might reasonably be expected that persons with obviously small blood mass, or showing abnormally low degrees of maximal arterial pressure, should characteristically fall within the class of those whose radial pulses fail when the arms are raised. But such is not the case. Thus, in bed-ridden consumptives, in patients who have not yet recovered from the effects of profuse hemorrhages, in others whose maximal blood pressure falls below 100 mm. Hg, it has frequently been found that the elevated radial pulses remain undiminished. In cases manifesting high blood pressure associated with arteriosclerosis it is, indeed, the rule for the radial pulse to persist when the arms are raised. It is not uncommon, however, especially in cases having compensated heart lesions, to find the pulse to fail under the conditions noted when the maximal blood pressure ranges as high as 140, 160 or even 190 mm. Hg. It is difficult to conceive how the mere lifting of the hands should drain from the radial arteries a blood column supported by so great a general maximal arterial pressure. I was led, therefore, in a previous communication[3] to assume that elevation of the arms produced an increase in general arterial pressure which was overcompensated by reflex dilatation of the splanchic vessels through the excitement of a reflex arc of which the depressor nerve was the afferent channel. A sifting of all the experimental data shows that this generalized hypothesis must be abandoned; but that it contains an element of truth is evidenced by some of the following observations:

Levy[4] thinks that the strength of the heart can be estimated by the effect on blood pressure caused by clamping the femoral arteries. The result of such compression is to raise arterial pressure, after a latent period of two or three minutes, in cases having strong or normal hearts, but not to change or even to lower the pressure when the hearts are weak. In a number of my experiments in which the femoral arteries were compressed during palpation of the elevated radial arteries, the results were usually negative, but there was at times marked accentuation of failure of the radial pulse. The same result occasionally accompanies compression of one brachial artery; the other arm being raised, its radial pulse may then fail more readily.

Positive and curious results frequently attended the following procedure: The subject being seated, his arms are elevated and the character and degree of pulse failure in one radial artery is noted. While this arm is held suspended the other arm is slowly alternately lowered and raised, the changes in the elevated pulse being meanwhile recorded. In a considerable minority of subjects in which the pulse is lost in an elevated wrist, the pulse failure is distinctly more pronounced when the other arm is raised, and vice versa, as is illustrated by Case 3:

CASE 3.—Mr. H. The hands are lifted until the arms are inclined about 30 degrees above the horizontal. Both radial pulses fail throughout ordinary respiration except for two beats in inspiration. When the left arm is held suspended, the left radial pulse returns and is strong when the right arm is lowered, but weakens much or fails altogether when the right arm is raised.

In a still smaller proportion of cases, especially in debilitated subjects, just the reverse effects are obtained, namely, a pulse which is subject to failure when one arm is elevated becomes stronger when the other arm is raised and vice versa.

These results, taken altogether, seem to indicate that slight variations in arterial blood pressure perceptibly affect the mechanism on which pulse failure depends and, indeed, in the direction of accentuating that failure under conditions which probably increase general arterial pressure.

THE RELATION OF THE RESPIRATORY MECHANISM TO PULSE FAILURE.

No physiologic fact is more easily demonstrated than the intimate relations between pulse or blood pressure and respiratory activity. Nevertheless, the extensive literature which has been founded on this subject has failed to offer satisfactory solutions of many of its problems. Griesinger[5] appears to have been the first to have described the disappearance of the pulse during inspiration in a patient afflicted with "mediastinitis" and to have designated the phenomenon as "pulsus paradoxus." Later Riegel[6] and Sommerbrodt,[7] in communications not accessible to me, maintained that the pulsus paradoxus is only the exaggeration, under peculiar conditions, of a physiologic phenomenon.

Physiologic demonstration of the relations existing between pulse and respiration is sometimes attempted through experiments attributed to Valsalva and to J. Muller, respectively. In the former, at the end of a deep inspiration, the mouth and nose are closed and then a forced effort to expire is made. The result is a temporary rise in blood pressure, with increase in frequency and diminution in size or even complete failure of the pulse. In the latter experiment, at the end of expiration mouth and nose are closed and a forcible inspiratory movement is made. The effect is a lowering of blood pressure, with, usually, an increase in the size

3. Experiments on Venous Blood Pressure and Its Relation to Arterial Pressure in Man. THE JOURNAL A. M. A., Oct. 20, 1906.
4. Ueber Kraftmessung des Herzen, Zeitsch. f. klin. Med., 1906, lx.
5. Quoted in Hermann's Hdb. d. Physiologie, iv, 297.
6. Riegel, Berliner klin. Wochensch., 1876, No. 26.
7. Sommerbrodt, Ebenda, 1877, No. 42.

of the pulse, though later the pulse may, it is said, disappear.[8] In radiographic observations carried on by Dr. S. B. Childs and myself it has been clearly demonstrated that in the state of modified inspiration described the heart and lungs are greatly engorged with blood as compared with their state during the modified expiration. Clinicians and physiologists, as a rule, seem to have no difficulty whatever in explaining any modification of pulse volume which is associated with respiratory activity, by assuming it to be due to variations in the capacity of the vascular bed of the lungs.[9]

There are several reasons why the results of my observations can not be explained in such a simple manner, notwithstanding that many of the most striking examples of pulse failure were exhibited by the subjects of more or less extensive pulmonary tuberculosis, with the attendant modifications of respiratory mechanics.

1. The removal of a considerable mechanical obstruction to the blood circuit in the lungs produces no such effect on the pulse as should be expected under this hypothesis. Thus:

CASE 5.—A lady, aged about 43, had carried a massive left-sided pleural effusion of inflammatory origin for a number of days. Just before aspirating more than two quarts of serum, the left radial pulse, with arms elevated, weakened and at times failed with deep inspiration. After a week the left pleural cavity had refilled. Before aspirating about two quarts of serum, the left radial pulse fails in deep inspiration. Just after aspiration, the process lasting about half an hour, the left radial pulse is smaller and it fails at times in ordinary inspiration; then, later, it does not fail even in deep inspiration; later, for a while, the left radial pulse fails in ordinary and deep expiration, and then returns.

CASE 6.—Mr. D., aged 61. Considerable arteriosclerosis. Patient in fair general condition, but afflicted with an enormous abscess of the liver. In the sitting position the liver flatness reached the level of the third costal cartilage. With the arms raised, the radial pulses remain both before and after aspirating a quart of pus.

These facts recall the results of experimenters who have found that a very large proportion of the pulmonary blood circuit may be blocked without affecting the systemic blood pressure.

2. In a certain small proportion, about 1 per cent., of cases in which the pulse failed in the elevated arm, it could not be detected that the failure occurred preferably in one rather than in the other phase of respiration.

3. Very frequently the pulse failure occurred during gentle respiratory movement, and occasionally a pulse so lost would be strongly restored by vigorous breathing.

4. In different cases the same respiratory movement would have opposite effects on the pulse; in one person the pulse or pulses would fail preferably during inspiration and in another they would return strongly in inspiration and fail throughout expiration.

5. Frequently a pulse which with a low elevation of the arms would fail during one phase of respiration, at a higher elevation would be lost through both phases.

6. Although, as a rule, the respiratory phase of pulse failure in the same individual remained constant during observations made at intervals of many months, in a certain proportion of persons the pulse which failed preferably during inspiration on one occasion failed easier in expiration on another. It has even been found, though rarely, that, during the same respiratory cycle, one radial pulse would fail in inspiration, returning in expiration, while the other pulse would fail in expiration and return in inspiration. In a former communication[3] I showed that in many individuals it was easy to demonstrate an inspiratory inrush of blood into the peripheral veins, presumably due to an inspiratory dilatation of the corresponding arterioles. It would seem as if the two phenomena must be related; however, the inspiratory swelling of the veins occurs both in the recumbent and in the erect postures, while pulse failure is only found, in my experience, in the latter.

SUMMARY AND CONCLUSIONS.

It seems to me that the foregoing observations demonstrate in a striking manner the intimate relations of the nervous mechanisms concerned in respiratory and vascular movements, and the influence of the gravitation of the blood mass thereon. In the upright posture the blood tends to settle in the capacious channels of the splanchnic vascular bed. As pointed out by Leonard Hill[2], the "head-up" position in four-footed animals may lead to extraordinary lowering of blood pressure in the carotid arteries and presumably to critical anemia of the brain. But in man there has been developed a compensatory reaction, undoubtedly chiefly vasomotor, by means of which the vessels of the dependent parts of the body, especially, probably, the arteries of the splanchnic area, contract under stimulus of the upright posture and maintain a fairly uniform distribution of the blood mass.

No physiologic coordination can be conceived that is more important than this to the welfare of the organism as a whole. It is to be expected, therefore, on *a priori* grounds, that minor compensations having the same general purpose should here and there disclose themselves. When the radial pulse fails in a wrist which is raised above the level of the head, the result may be due either to passive drainage of the blood from the artery, followed by a purely local contraction of the arterial wall, or to active vasomotor contraction of the vessel under the stimulus of gravity. As touching the former view, Bayliss[10] has shown that peripheral arteries freed from their nervous connections respond to variations of internal pressure by contracting as the pressure rises and dilating as it falls. It is difficult to see how these results can explain the facts presented in this paper. Sifting the great number of observations bearing on this subject, the latter explanation seems to be the only possible one. In other words, according to this view, pulse failure in the elevated radial artery is a sign of vasomotor activity and belongs to the series of physiologic compensations. It is comprehensible as such, if we presume that contraction of the radial arteries helps to maintain blood pressure in more vital tissues by diverting the blood stream from less sensitive organs. It has often been observed that pulse failure which is obvious in the elevated wrist at the beginning of a series of observations, is not evident later on. That is, the pulse failure mechanism seems subject to fatigue. Excitement or emotion which increases the total outflow of nerve energy tends to inhibit the pulse failure. In general, in perfectly normal individuals who are in vigorous physical condition, the radial pulse is maintained when the arms are raised. In the same class of persons when more or less debilitated by confining occupations or subnutrition, the pulse often fails. In an acute febrile disorder the pulse usually remains when the arms are

8. Description of Experiment by Reichert: Amer. Text-Book of Physiology, I, 1900, p. 452.

9. Witness, for example, Sir Jas. Barr's admirable address, Lancet, Aug. 25, 1906, 481.

10. The Reaction of Blood Vessels to Alterations of Internal Pressure. Jour. of Physiology, xxvi, 29, 1901.

raised; during convalescence, especially with the establishment of compensation in cardiac disease, the pulse often fails. Numerous observations seem to show that these differences in the reaction of the pulse do not depend on the amount of blood volume or the degree of maximal arterial pressure. It is not only conceivable but probable that signs of physiologic compensation which are absent during robust health or active disease, should become manifest when the normal vital energy is reduced or when, as a result of disease, the efforts of physiologic adjustment must become more strenuous to maintain the needful outflow and normal distribution of the blood mass. The older writers[11] in this field were prone to attribute the *pulsus paradoxus* to mechanical interference with the normal blood flow, basing their position on the frequency with which the phenomenon attends pathologic adhesions between the mediastinal tissues. The facts that have been rehearsed seem to indicate that mechanical abnormalities within the chest may only indirectly cause pulse failure by exaggerating certain reflexes which under perfectly normal conditions are masked.

As already stated, failure of the elevated pulse does not seem to occur in persons showing signs of general arteriosclerosis. The thought may not be far amiss that this constant organic tendency of later life may in itself be a compensation which, by diminishing the distensibility of the vessels under the hydrostatic pressure of the blood, may more or less substitute that constant and necessary redistribution of the blood mass which has become impossible to a senile vasomotor apparatus.

FINAL RESULTS OF CONSERVATIVE SURGERY OF THE TUBES AND OVARIES.

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It is an every-day experience in medical literature to read a surgeon's report of a series of "successful" operations. The surgeon expresses therein usually a feeling of satisfaction with the results of his work. Are the patients and family physicians equally content? What gratification or satisfaction is it to a woman to appreciate that she has escaped with her life, after a serious operation, only to discover that she continues to be an invalid or possibly a cripple? How many of these patients who have been "successfully" operated on pass on to the family physician, to the neurologist, or perhaps to the next surgeon for further attention? And how many of such patients would not rather have sent their blessings from the next world to their surgeon had he failed in noting a "successful" result and spared them the tortures of postoperative invalidism?

The older one grows in the practice of medicine and surgery the less is he apt to be carried away by the brilliancy of mere figures. The operator in surgery is, after all, only an artisan like the tailor or bricklayer with the additional equipment of a man educated in his special line. His specialty necessarily implies a thorough knowledge of anatomy and surgery as well as a cool head, steady nerve and an immense reserve stock of courage and backbone. If he does his work beautifully, skillfully and gracefully he becomes, in addition, the artist. But the man who combines the qualities of a good diagnostician, careful thinker, artisan and artist is, after all, the best surgeon. Thus the average house surgeon to-day can point to a series of a dozen or twenty operations for appendicitis done neatly, quickly and, perhaps, without mortality. Yet he needs the experience of many mistakes in diagnosis as well as errors of judgment before he can be rated as a first-class surgeon.

From this rather pessimistic viewpoint have I tried to approach the subject in hand—namely, the true value of the conservative surgery of the adnexa. I have made little use of the literature of the subject and have tried to avoid being carried away by general impressions. Individual experiences extending over a period of many years have been the basis for the present study.

It is only proper to state at this point that the question of danger to life played a small rôle in this series of operations. In fact, in the hands of the average surgeon, in a properly equipped hospital, the mortality rate after this kind of work should be very low. In the collection of 160 cases of which I have records one patient died after operation and a second one is at present quite sick and in the hospital under the care of my successor to the service, Dr. S. W. Bandler. It is a good rule to study one's unsuccessful results in order to guard against the possibility of future error, and I shall describe these two cases at this point:

CASE 1 (Group 3).—*History.*—A young married woman, aged 28, was referred to me by Dr. M. Cisin. On opening the abdomen a large tubo-ovarian abscess was discovered in the left side. It was ruptured during the subsequent enucleation and removal. The right tube was the seat of a purulent salpingitis and was amputated at the horn of the uterus. The ovary on this side was normal, and, in order to give the patient a chance to overcome the existing sterility as well as to retain the menstrual function, it was attached to the right uterine cornu. The broad ligament gap was brought together on each side with sutures in such a manner as to keep the uterus from falling backward. The extensive adhesions to the omentum and intestines were carefully separated and the diseased appendix was removed. Because of the escape of pus from the left tube ruptured during the operation the wound was drained. At the close of the operation the pelvis was clean and dry. The same evening the patient passed into a state of collapse which was attributed to postoperative shock. Under stimulating treatment she rallied. The wound being drained and little blood having appeared in the dressing, we were entirely misled in estimating the true condition of affairs. Several days passed before the secondary hemorrhage which had taken place was recognized, and, as the patient had emerged from the shock and her pulse was of fair quality, there was no indication for a secondary operation at this time. The wound was opened sufficiently to allow of the free escape of the blood accumulation. In the course of weeks, this case reduced itself to a purulent discharge through the abdomen and the patient passed through an attack of septic pleuropneumonia. After a valiant battle for life she finally succumbed to chronic sepsis and slow exhaustion at the end of ten weeks.

CASE 2 (Group 3).—*History.*—A young married woman, 31 years old, sterile. After preliminary curettage and drainage of the uterus, an abdominal section was made. The omentum, densely adherent to the anterior parietal peritoneum, was carefully detached. The right ovary was buried in firm adhesions so that during delivery it was severely mutilated and torn into two fragments. The right Fallopian tube was probed and its canal proved to be completely obliterated; it was therefore amputated at the horn of the uterus on this side. The half of the ovary which was still in the depths of the pelvis was sutured so as to check bleeding. The detached half was sewed to the horn of the uterus. On the left side the diseased obliterated tube was amputated at the uterine cornu. No attempt was made to tear this ovary out of its lodgings. The appendix was removed and the wound was drained. A con-

11. Cf., Hermann's Hdb. d. Physiologie, iv, 297.

dition of suppuration developed for which it was decided to make a vaginai counter-opening. Through an oversight in preparation the bladder was not emptied according to routine, and, in making a counter opening through the lateral vaginal fornix, the bladder was inadvertently injured; so that the patient, besides her abdominal sinus, is now the unfortunate possessor of a urinary fistula which will probably require another operation for its cure.

With the exception of the two cases above narrated, all of the others were discharged from the hospital as "cured." Of these 158 cases I regret to say that I have been able to examine and to secure subsequent reports from only 85, the others having passed out of my horizon, so that nearly one-half of my work in conservative surgery of the adnexa is at present beyond my reach.

The history of conservative surgery of the pelvis dates back a long time. Thus the evacuation of pelvic abscesses, or adherent pus tubes, per vaginam or rectum or through the abdominal wall, was practiced by surgeons in the early days. The curved, sharp-pointed bistoury having been plunged into the abscess, the blade was washed, or possibly only wiped dry, and returned to the trousers pocket. As for pelvic hematocele, which we now know to be regularly the result of ectopic gestation, we learn that Ruyschk of Amsterdam alludes to it as far back as the year 1737, and that in 1831 Recamier opened into one under the impression that he was opening a pelvic abscess. How comparatively seldom to-day do we treat pelvic collections of blood or pus by simple incision and drainage? And yet conservative surgery of this kind still has its appropriate place.

THE BEGINNING OF ASEPTIC SURGERY.

Then followed the period in which tubes and ovaries were needlessly sacrificed because surgeons found that the introduction of asepsis reduced the mortality of intraperitoneal operations. With what degree of pardonable pride did not the surgeons of twenty years ago allude to their "successful" work in this direction? It was the neurologist and the general practitioner who called a halt to this form of malpractice. Dr. A. Jacobi was at that time quoted as having said that he preferred to see most of these ovaries in the abdominal cavities of women than in the surgeon's jar. The result of this reaction was sudden and decisive, so that to-day it is, indeed, rare to meet a surgeon who is willing to sacrifice healthy or micro-cystic ovaries for the cure of dysmenorrhea, hysteria and epilepsy.

If the gynecologist deserves to have a place in surgery at all—and this seems to be denied him by certain large hospitals and by some of the best general surgeons—it is because of much of the work done in this particular branch of pelvic surgery. It is not the purely mechanical part of his work which justifies the gynecologist to pose as a specialist. It will be conceded that every good surgeon should be able to do this kind of work equally well provided his opportunities for gaining experience occur often enough. It is in the laboratory, in the clinic and in the operating room that the student devoted to diseases peculiar to women gets his advantage over the general practitioner of medicine and over the general surgeon. The result is a clearer insight into diagnosis, a better judgment as to the proper course to pursue, and greater familiarity and facility in the technical details of gynecologic operations.

About ten or twelve years ago leading gynecologists conceived the idea of substituting conservative surgery of the adnexa for the radical work then in vogue, the object being not to reduce the mortality rate but to reduce the morbidity after operations on the tubes and ovaries. One of the best of these early papers was written by Pozzi, and in it he describes the technic of conservative surgery of the ovaries—a technic practically adopted by all operators to-day. The conservative surgery of the tubes owes its chief impetus to American gynecologists—chiefly to the writings and work of the late Dr. A. P. Dudley. In developing this kind of work operators banished the old mass ligature, which, by compressing nerves in the constricted tissues, was responsible for much of the postoperative suffering so often met with under the older methods of dealing with pedicles. Silk ligatures, which used to be followed frequently by sinuses of the abdominal wall, were similarly discarded, so that most operators now use catgut exclusively.

THE OVARY.

The ovary presents a large field for conservative work when it is the seat of cystic disease. The microcystic ovary, as pointed out by Welch of Baltimore and W. Gill Wylie of New York, is not in itself a pathologic lesion of sufficient importance to justify the opening of the abdomen. If the abdomen is opened, however, for other reasons and such ovaries are discovered the cysts may be punctured with a needle or, as the German operators prefer, with the point of an actual cautery (ignipuncture) so as to destroy thoroughly the cyst wall. As a rule, all of the cysts will not be reached by either method, but, as the lesion is ordinarily insignificant, this need cause little regret. Another method to attack such ovaries, particularly when there is reason to feel that they are the seat of abnormal internal tension, is to split the cortex or bisect the ovary and prick the little cysts seen in each segment. That tension in an ovary is relieved after bisection there can be no doubt, but often it will be necessary to suture the two halves together again in order to control oozing of blood, which, to my mind, nullifies the advantages of the operation. For this reason in recent years I have at times reduced the size of swollen micro-cystic ovaries by exsecting a longitudinal segment, like a slice from a watermelon, and then have stitched the wounded surfaces together.

The large unilocular or multilocular ovarian cysts, reaching to the size of a cocoanut, football or larger, were formerly subjected to complete removal. To-day, thanks to the labors of Boldt and some German operators, it has been proven that enough ovarian tissues can be found at the base of these tissues to leave a functionating ovary of greater or lesser size. The tumor is circumcised and cut out at its base, where usually some healthy-looking ovarian tissue will be recognized, which can be left. No ligation of vessels is necessary. The remnant of ovarian tissue is now sewed in such a manner that its raw surfaces are brought in close apposition. I have known large tumors of both ovaries to be treated in this manner in which menstruation subsequently followed its normal course.

The smaller ovarian cysts, ranging in size from a hazelnut to a plum, are either developments from a Graafian vesicle or a corpus luteum. When their contents are hemorrhagic they are known as hematomata. Ordinarily they can be exsected with the sac intact, or the tumors can be incised and the sac wall drawn out with forceps or scraped off with the knife. In either case a few stitches readily obliterate the bed of the cyst. Some operators like to turn in the peritoneal coat of the ovarian wound with Lembert sutures, but I regard this as an unnecessary refinement.

Ovaries which have undergone fibroid degeneration are seldom amenable to conservative surgery. At least I have never met any which could be thus treated. Malignant disease of the ovaries contraindicates any attempt at conservatism. Ovaries in juxtaposition with pus tubes or purulent pelvic collections can safely be left undisturbed or may be subjected to partial exsection. These ovaries, if not the seat of the abscess at the time of operation, seldom, in my experience, give rise to trouble later. If they are involved in a suppurative process and form part of a tubo-ovarian abscess they should ordinarily be removed. Exceptionally they may be attacked through the vaginal route. On a number of occasions I was able to incise and drain ovarian abscesses through a vaginal incision. In such cases it is likely that a certain amount of healthy ovarian tissue was left.

THE FALLOPIAN TUBES.

The desirability of applying conservative surgery to pus tubes is open to question in my mind. I know that, per vaginam, I have frequently left such tubes after incision and packing. I have followed one case for twenty years in a woman who subsequently was never sick and gave birth to a number of children. Kelly and Boldt, who make use of this plan in very young women, concede that such cases may require secondary operations from time to time. Hence, where I have my choice, my practice is in favor of total and complete ablation of pus tubes down to the horn of the uterus. Experience with secondary operations for infected stumps has driven me to this position.

Although it is possible to save tubes and cure hematomata by pelvic incision and drainage, I seldom make the effort to attack cases of ectopic gestation, which is the usual underlying condition in these cases, excepting by laparotomy and the removal of the pregnant tube.

When, however, the Fallopian tube is twisted or elbowed as a result of pelvo-peritonitis it can be restored to its shape by simply breaking it away from its adhesions. When the outer half or less of the tube is the seat of hydrosalpinx it can be removed, leaving the inner portion to be attached to the ovary. I have never seen an ectopic pregnancy to follow such attachments, although this has been one of the objections to the procedure. Intra-ligamentary cysts can often be safely attacked and cured by vaginal incision and drainage, although it is best to remove them intact from above.

In doing plastic work on the tubes and ovaries the tube is amputated in what appears to be healthy structure at the proximal attachment of the hydrosalpinx (or perhaps otherwise diseased and obstructed tube). A sound, probe or wire is passed along the lumen of the tubal stump until it enters the uterine cavity. If this proves to be obliterated there is no object in further attempts at plastic work and it is well to amputate the stump down to the horn of the uterus. Should a canal be demonstrable the open end of the tubal stump is split toward the uterus a distance of about a half inch and the mucous lining is sewed to the peritoneal coat with a half dozen fine catgut stitches. The ovary, or a healthy portion of it, after having received proper surgical attention, is attached by its smooth, uninjured surface to the peritoneal surface of the tube at the newly made ostium. If these precautions are not taken there is reason to believe that the whole work is in vain and that the new opening made is subjected to permanent occlusion. The plastic work, properly done, gives the patient a new chance for overcoming an otherwise hopeless barrier to impregnation.

Exsection of tubes or portions of tubes for the purpose of inducing sterility is not, properly speaking, to be regarded as conservative surgery. There are, however, clear indications for its performance and I have had occasion to resort to the procedure a number of times. A segment of each tube is caught between two ligatures and exsected. It has rarely happened after this was done that a new connection formed to permit of the union of an ovum with a spermatozoon—never in my own cases.

THE PELVIC PERITONEUM.

Finally we meet with cases in which, with or without lesions of the tubes and ovaries, the chief pathologic changes have involved the pelvic peritoneum. These changes are ordinarily dependent on the puerperium or occur after abortions, gonorrhea or tuberculosis. The management of pelvic adhesions is often very unsatisfactory. Under early postoperative mobilization as advised by Ries, Boldt and myself, I believe that reformation of such adhesion is prevented. Under most conditions they can be separated or broken up in a fairly satisfactory manner. In certain cases there is considerable risk of injuring the intestines, tubes or ovaries while digging the adnexa or uterus out of dense adhesions. Where the ovaries or tubes run the risk of great damage during delivery it is wiser to proceed with their complete extirpation, as my experience leads me to believe that the retention of such mutilated or damaged adnexa only too often threatens the ultimate comfort and health of the patient and leads to secondary operations for their final removal.

In quite a few cases, however, it is possible to release the adnexa from surrounding adhesions and to preserve them in whole or in part for purposes of plastic work. Where adhesions are visible it is well to work with the aid of the sight and fingers, using ligatures when necessary, particularly when dealing with the omentum. When the integrity of the intestinal wall is threatened I prefer to leave bits of tissue, like the wall of a cyst or abscess sac, as I regard an injured intestine as one of the most serious complications of an operation. In many cases, however, it is possible to release more or less completely the adnexa from adhesions and to preserve them intact without subjecting them to enough damage to demand their removal. In the case of adhesions deeply situated in the pelvis a line of cleavage will usually be discovered by the experienced finger and the adnexa brought up for inspection. One must work often by the sense of touch, and I advise slow, gentle manipulation with the palmar surface of one or two fingers.

Total extirpation of both tubes and ovaries implies three things: 1, Cessation of menstruation; 2, hopeless sterility; 3, nervous breakdown from the sudden onset of the menopause. Whether or not one is inclined to accept the views of the French authorities who claim that the ovaries secrete a juice which is necessary for the normal state of the female economy and the sudden removal of which tends to disturb the balance of the sympathetic nervous system and to produce various disturbances, the fact remains that in the normal climacteric the menopause is reached in a slower and much more gradual fashion. The system seems to be prepared, in the normal course of events, for a cessation of menstruation by the gradual and physiologic atrophy of the ovaries. But in the artificial menopause induced after operation the storm bursts suddenly and the entire nervous system is shocked with its violence.

Hence conservative surgery of the adnexa has for its main objects: 1, The removal of diseased tissues; 2, the relief of various forms of disturbances and suffering; 3, the preservation of menstrual function; 4, the possible overcoming of pathologic conditions which are responsible for sterility; 5, the avoidance of the collapse symptoms resulting from the sudden onset of the menopause; 6, the prevention of senile atrophy and changes which take place about the vulva and vagina and shorten the enjoyment of sexual life in many cases.

A COMPARISON OF CONSERVATIVE AND RADICAL CASES.

Over conservative methods, radical adnexal surgery has the advantage of positively removing all of the pathologic tissues (and frequently much more than necessary), giving the patient on the whole a better guarantee against subsequent operations. It does not guarantee immunity from postoperative pain because adhesions are still possible and nerve inclusions can not always be avoided. Those who remove the uterus regularly with the diseased adnexa also submit their patients to a greater operative risk, and I am satisfied that this organ is only too often thus unnecessarily sacrificed.

Conservative surgery, on the other hand, aims at saving healthy tubes or ovaries in whole or in part and never sacrifices the uterus. Besides removing the tissues which are distinctly diseased, it aims at preserving the menstrual function. It occasionally overcomes the obstacles to impregnation. It always inhibits the local and general results of the sudden menopause.

For the purposes of better study I have divided my work in this field arbitrarily into three groups of cases: Group 1, in which one tube or a portion of one tube was removed; and also incision and drainage of a tube. Group 2, in which ovaries were bisected or punctured and cysts exsected; also incision and drainage of an ovary. Group 3, in which adhesions were broken up with or without plastic conservative surgery of the tubes or ovaries. The three groups comprise 160 cases, of which 26 belong to the first class, 44 to the second, and 90 to the third class.

To judge properly postoperative morbidity one must be in possession of plenty of facts. Hence only multiplied experiences of numerous operations can determine percentages with any degree of fairness. The operator who sees his patient subsequent to operations will adjudge the result as satisfactory if he finds the pelvic organs in good condition and functionating, the abdominal scar firm, and the general nutrition of the patient good. The family physician, however, listening to postoperative tales of distress dependent on nervous or gastrointestinal derangement and exerting every endeavor to relieve the patient of a persistent dysmenorrhea or dyspareunia, will be apt to take a more pessimistic view of the "successful" operation.

Looking at my work from my own viewpoint and asking the thoughtful reader to make full allowance for the "personal equation" inevitably present, I beg to submit the following observations on postoperative morbidity.

In Group 1 (conservative work in 26 patients on the Fallopian tubes) I have noted unsatisfactory results in two cases. One of these patients a year later was suffering from a pelvic inflammatory mass which could be distinctly felt. In the second case the patient required a secondary laparotomy for the removal of an infected stump left after the first operation. One of the patients in this series of cases died suddenly of a cancer of the rectum which does not reflect on the propriety of the operation previously done by me.

In Group 2 (conservative work on 44 patients on the ovaries) six patients had good reason to complain of postoperative suffering. A distinct pelvic mass was present in one case and a secondary operation was required in another.

In Group 3 (conservative work in 90 patients with adhesions of tubo-ovarian disease) I have notes of seven unsatisfactory results. In three cases of this group the patients presented pelvic inflammatory masses, subsequent to operation, which caused much suffering. Four patients required secondary operations. The two cases alluded to in the early part of this paper belong to this group.

Although the total number of secondary operations done in my cases after conservative surgery amounts to only six cases, I readily concede that this figure is contestable on the ground that I lost sight of a certain number of my patients after they left the hospital. Some of these patients possibly required secondary operations elsewhere at some subsequent period. As six patients required secondary operations in the cases which I was able to follow it may be fairly assumed that six others were submitted to similar operations in the other half lost from view. Thus I infer that the maximum necessity for secondary operations after conservative adnexal surgery does not exceed 7 per cent.

WHAT IT MEANS.

Too much stress can not be laid on the importance of reaching some conclusions in this matter, for it is in regard to the guarantee against secondary laparotomy that radical adnexal surgery has a distinct advantage over conservative work. If investigations by other operators, based on careful and positive observations, should prove that the morbidity after conservative adnexal surgery is so great as to require an unwarranted number of secondary operations then the advantages of preserving ovulation, menstruation and possible fecundity are clearly outbalanced by the inconvenience, if not actual danger to life, of a secondary laparotomy. The results which my own experiences thus far have reached, however, point the other way.

The general health of patients was noted in eighty-five cases at periods of time varying between one month and twelve years after operation. Of these thirty-five women were seen within six months from the time of operating, and in these the postoperative morbidity reached the highest percentage. While it is possible that many of these women seen within this period of time ultimately went on to perfect recovery, it is just as logical to assume that others remained more or less permanent invalids and had to submit to further operative intervention. Taking all in all, I estimate the postoperative morbidity after conservative surgery of the adnexa to be about 23.5 per cent. In other words, I believe that three out of four of these women are cured or left free from important symptoms attributable to the pelvic structures.

That many women who keep complaining for the first six months or year after operation gradually pass into an improved condition or perhaps become so accustomed to their ailments that they cease to complain is a frequent experience in the domain of surgery. Of fifty cases examined by me after the lapse of six months from the time of the conservative operation only 18 per cent. were regarded as ill enough to require treatment. We must, therefore, never hastily advise secondary operations. I have numerous notes in my history books of

"swollen ovaries" or "pelvic exudates" following operations which disappeared entirely in the course of time.

To attempt to specify the exact value of conservative adnexal surgery in relieving preoperative symptoms is a very difficult task. For after all many of these symptoms are purely subjective or relative. What may be described as a burning sensation in the pelvis by one woman will be regarded as intolerable torture by another. Thus the amount of pain which the individual woman actually suffers will often be in direct proportion to the development of her nervous system or imagination. Similarly, suffering ascribed to dysmenorrhea, menorrhagia or dyspareunia will be carefully estimated by the discriminating medical attendant with these possibilities in view.

Postoperative menstrual disturbances were noted fourteen times in sixty-six cases. They consisted of metrorrhagia, amenorrhea of different grades, and dysmenorrhea. They occurred in Group 1 twice, in Group 2 three times in Group 3 nine times. Whether 21 per cent. represents the exact truth in regard to the estimate of postoperative menstrual disturbances I leave to other investigators to determine.

The most difficult symptom to estimate after a pelvic operation in women is pain. I have reached that stage in which I listen to the patient's talk of pain and try to determine approximately its value by judging how much of a disturbing factor it is on sleep, on appetite, on general comfort and in interfering with nutrition. Hence it is that complaints of pain after operation I frequently take *cum grano salis;* and this may account for the fact that in 80 per cent. of my postoperative observations I regarded the pains as being insufficient to reflect on the value of the original operation.

THE CURE OF STERILITY.

When in the freshness of virgin enthusiasm I took up plastic adnexal surgery I had before my mind's eye the brilliant results of W. K. Polk and others in overcoming that hopeless form of sterility resulting from lesions of the tubes, ovaries and pelvic peritoneum. I felt that there was logic in the statement that the lumen of a distorted Fallopian tube could be restored to its normal caliber and that portions of healthy ovary could be attached to stumps of repaired tubes so that the impregnated ovum would have a fair chance of migrating via the newly-created channel into the uterus for lodgment and further development. It is, therefore, with a certain feeling of disappointment that I find notes of only twelve cases—or 7.5 per cent.—of subsequent pregnancies. I think that this represents more clearly the truth than any of my other postoperative observations in these cases. As I have been peculiarly attracted to the study of every phase of sterility in women and its management I have regularly asked my patients after operation to report in the event of subsequent impregnation and childbirth. Still it will be conceded that even this small percentage of successes is a triumph of which modern surgery has good reason to be proud.

Is conservative surgery of the adnexa only a passing craze or fashion to be wiped out of existence by newer medical or surgical methods? Is it open to better technic and improvement? Or is it to drop out of sight as an experiment which has not stood the test of time only to yield to its older rival—the complete removal of diseased adnexa? I think not. It seems to me that with a mortality rate which, in good hands, should be very low and with a morbidity rate (requiring occasionally a secondary operation) of one in four, the methods of conservative surgery of the adnexa have come to stay.

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REPORT OF ONE HUNDRED AND SEVEN CASES OF CANCER TREATED WITH THE ROENTGEN RAY, WITH COMMENTS THEREON.*

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Although the number of cases of cancer which I report is not large, yet they represent the work as it has turned up in my Roentgen ray practice. To appreciate properly the value of the *x*-ray treatment one must realize the vast difference between different cases of cancer from a clinical standpoint. Microscopically they are all more or less the same in structure, but clinically they vary from the almost inactive superficial sore, a slight degree removed from a senile keratosis, to a large growth associated with a general carcinosis.

THE NEED OF DISCRIMINATION.

By laymen, and occasionally even by physicians, all cancers are placed in the same class of malignancy. If the *x*-ray fails to heal one case of cancer their whole faith in the efficacy of that treatment of cancer is weakened; on the other hand, there are those who hearing of the *x*-ray healing one case will jump to the conclusion that all cases should be healed by the ray. It is only possible, therefore, to approach an estimate of the value of the ray by having a large number of cases and dividing them into classes which are more or less similar and susceptible of comparison.

By the study of the results of the treatment of a large number of cases so classified a fairly accurate estimate of the value of the ray can be determined. Should the surgeons furnish us with a similar classification of cases, treated by their methods together with the results, the value of the ray could then be determined as compared with surgical methods.

I have divided the cases into six classes, according to the extent of the involvement. Many senile keratoses were healed with the ray, but they were not considered carcinomatous and hence are not included in this classification. Senile keratoses should be looked on with suspicion and considered as pre-cancerous conditions. They not infrequently develop into well-defined squamous-celled carcinomas. In the same class of pre-cancerous conditions are moles which occasionally become irritated. These conditions when ulcerated heal quickly under the influence of the Roentgen ray. The unirritated mole does not yield so readily.

I have not used the term epithelioma because all carcinomas are tumors of epithelial cells, and only the loose use of the term has by custom restricted its meaning to that of a squamous-celled carcinoma, or epidermoid carcinoma, or, as it is commonly called, a skin cancer.

Growths resulting from keratoses are usually, if not always, squamous-celled carcinomas. Some growths resulting from moles are squamous-celled carcinomas and some are composed of endothelial cells. Such endo-

* Read before the American Roentgen Ray Society, Oct. 3, 1907. Cincinnati, Ohio.

theliomas, particularly the pigmented ones, should be strictly classed with sarcomas. On account of their clinical character, however, I have classed them with the carcinomas. In some of the cases a microscopic examination of the tissues was made; in others there was no such examination, because the gross appearance and the clinical history was sufficient to establish the diagnosis without question.

THE VARIOUS CLASSES.

The first class includes those lesions on the skin surface advanced beyond a keratosis, having a thick scale, covering an ulcerated area of long standing, with the history of growing more rapidly of late; and also those growths with elevated margins and ulcerated centers growing steadily, having started usually from a mole or papilloma.

The second class includes those growths which originally began as those of the first class but had reached a more advanced stage and invaded the subcutaneous tissues, either leaving in their wake a deep ulcerated and sloughing area or by the rapid proliferation of malignant cells had given rise to a large protuberant or rose- or cauliflower-like mass.

The third class includes the extensive recurrent and metastatic growths in the deep structures. The original growth may or may not have been on the skin.

The fourth class includes the carcinomas on the mucous membranes.

The fifth class includes the primary carcinomas of the breast.

The sixth class includes the recurrent carcinomas of the breast.

SKIN LESIONS.

In Class 1 fifty-three cases were treated and fifty-two healed. In the one not healed the treatment was interrupted by an attack of pneumonia. During the attack there was renewed activity of the growth which had begun to improve. Later, when the *x*-ray treatment was begun again, the growth did not seem to respond to treatment and excision was advised and done. There has been no recurrence, three and one-half years afterward. In four cases there was a recurrence, all of which healed again with the ray and are now healed.

In five cases the patients have died, but they did not show any evidence of recurrence up to the time of their death, from one to three years after the treatment. In nine cases the patients have not been heard from since their discharge, but there is good reason to believe that I would have heard if there had been any recurrence. The remaining thirty-five cases are still healed, having had no recurrence. The first case was healed four and one-half years ago. The average number of exposures was sixteen and the average duration of treatment was five weeks. The largest number of exposures was forty-six and the smallest four. The longest duration of treatment was twelve weeks and the shortest was six days.

The question of recurrence, which is of so great importance, depends simply on the thoroughness of the treatment; that is, whether or not all the malignant cells have been destroyed. If in any form of treatment a single malignant cell is left remaining that cell will proliferate and give rise to the gross reappearance of the growth. If the ray has destroyed so many of the cells that the growth has been reduced to a mass invisible to the eye the ray will undoubtedly destroy the remaining cells if its destructive influence be continued.

Many of the cases healed without producing any reddening of the surrounding tissues, or what might be called an inflammatory reaction. The typical manner for such a growth to heal is to have the scab over it become thicker and thicker, dryer and dryer, the edges loosening and finally the scab comes off, leaving a smooth healed epithelial surface almost without contraction or scarring. Sometimes several scabs will form before healing is complete. In other cases suppuration occurs beneath the scab, under which circumstance the scab is removed and the area disinfected with a strong antiseptic ointment. A fresh scab is then allowed to form and remain. My experience is that patients do better when the growth is exposed to air and sunlight than when it is covered with dressings and ointments. However, discretion must be exercised. In cold weather dressings may be desirable.

THE DOSAGE.

To bring about healing in the ideal manner one must know well his apparatus in order to give just the desired dosage. A dosage should be given that in ten days would not be quite sufficient to produce an erythema. This effect is then kept up until the growth heals. In many instances the patient being in a hurry, it is desirable to shorten the time under treatment. To accomplish this the duration of single exposures is lengthened and the frequency is increased, and a slight dermatitis is purposely brought about. The disadvantage of this is the discomfort and anxiety of the patient on account of the dermatitis, even though it be slight. The degree of the dermatitis and the time it will develop and last can be foretold with a great deal of accuracy. Such prognosis makes a very favorable impression on the patient, especially when the dermatitis has faded.

Unless the influence of the ray is kept up until the growth is completely destroyed the malignant cells will require a renewed activity, which is more active and more difficult to bring under subjection again. One difficulty an *x*-ray operator has to contend with is the irregularity of some patients in coming for treatment. In many of the cases reported the number of exposures would have been much less and the duration shortened but for this difficulty.

SKIN LESIONS WITH SUBCUTANEOUS INVOLVEMENT.

Class 2 is composed of cases of advanced superficial carcinomas. Practically all of the patients had previously undergone some other form of treatment, which was either primarily unsuccessful or followed by a recurrence. Seventeen cases are in this class. The average number of exposures was forty-nine and the average duration of treatment was five months. The longest duration of treatment was twenty-two months, with seventy-nine exposures. In this case the growth involved a large part of the face and nose, exposing the maxillary antrum. There was a disappearance of all active evidence of the disease with temporary healing.

The largest number of exposures in an individual case was ninety-three, extending over nine months. The case was one of a large protuberant growth on the back of the wrist; the place healed. About three years later there was a slight recurrence, which healed again under the influence of the ray. Now, four years later, there is no evidence of malignancy. The epithelium over it is thin and sensitive, with a tendency to be scaly.

A very decidedly unfavorable idiosyncrasy was apparent in two cases, Nos. 9 and 15; the ray seemed to

aggravate the malignant process. On the other hand, Case 12 showed a marked favorable idiosyncrasy. This was the case of an old man 86 years old, in whom there was a large excavated area just anterior to the ear. It had been growing for ten years, but more rapidly in the last few months. It was an apparently hopeless case. Moved more by sympathy than by expectation I gave him, in two days, a dosage about sufficient to produce a dermatitis. I told him if there was any improvement to return in two weeks. To my surprise he came back. I continued the treatment in four series at intervals of two weeks. In three months the place had healed. No exposures were given after the skin had healed over, which if it had been done would probably have prevented the recurrence that took place six months later.

The results of the treatment of this class of cases are as follows:

Two were unimproved.
Four were improved.
Five were healed temporarily, that is, there was a disappearance of the malignant process, followed by a recurrence.
Six were permanently healed, that is, there has been no evidence of the malignant process in them up to the present time.

LESIONS OF THE DEEP STRUCTURES.

The final results of the treatment of the cases in the third class are not very encouraging, unless they be compared with the results in other forms of treatment. Life can in many instances be greatly prolonged and rendered much more comfortable. There finally comes a time when the *x*-ray will not even relieve the pain. One case (No. 7) is of interest; it was one of recurrent growth following paste treatment to the eyelid which destroyed the eye. There was a hard mass in the nasofrontal region. I gave a very unfavorable prognosis because the hard mass of the recurrent or metastatic growth was adherent to the nasal and frontal bones. I had looked on the involvement of a bone, or the extension behind a bone, as hopeless so far as destroying the growth with the ray. After nearly a year's treatment the mass had disappeared, and for the last nine months I have been giving one exposure a week to prevent a recurrence. There has been no recurrence and the place is apparently in good condition.

The results of the treatment of the nine cases in this class are as follows:

Five were unimproved.
Two were temporarily improved.
In two cases there was a disappearance of the growth; in one of which there was a recurrence, but the other has remained apparently healed twenty months since the beginning of the treatment.

CARCINOMAS OF THE MUCOUS MEMBRANE.

In Class 4, of carcinomas on mucous membranes, there were ten cases. Five were on the lower lip. In one the treatment was discontinued after eleven exposures extending over one month with no improvement. In the other four cases the number of exposures varied from six to sixty-five, extending over periods varying from two weeks to six months. In each case there was more or less improvement but without complete healing. They were all finally excised and since then there has been no recurrence. Now I always advise excision for growths on the lip.

There were three cases of carcinoma involving the tongue, floor of the mouth and the glands of the neck and one case of carcinoma of the rectum, all of which were unimproved and the patients finally died. In one case of carcinoma of both tonsils the patient was slightly benefited temporarily by the relief of pain and diminution in the size of the growth on one side. The growth, however, then progressed and terminated fatally.

PRIMARY CARCINOMA OF THE BREAST.

Class 5 consists of three cases of primary carcinoma of the breast. In Case 1, a female, aged 26, there was an extensive involvement of the mammary gland but without ulceration. After eight exposures extending over a period of eight days I declined to give further *x*-ray treatment and insisted on a radical operation, which was done. The patient died of a recurrence and metastasis about four months later. Microscopic examination of the tissue removed at the operation showed disintegration of the cells in many of the alveoli.

The second case was that of a female, aged 37, who had a tumor in the upper outer quadrant of the left breast. It had been steadily growing for eight months. After ninety exposures extending over a period of ten months the tumor had shrunken to a slightly perceptible indurated mass. There has been no recurrence to the present time, three years later. Of course there is some doubt as to the real nature of the original tumor, as no microscopic examination was made.

In the third case, a female, aged 59, had an indurated mass covered by a scab two-thirds of an inch in diameter on the outer part of the left breast puckering the surface. It had grown slowly for nine years, but recently more rapidly. A gland in the neighboring axilla was perceptibly enlarged. After fifteen exposures given in one month a dermatitis was produced which soon subsided, accompanied by a disappearance of the indurated mass and smoothing of the surface. The axillary gland was also reduced, but not completely. Twenty-six months later a recurrence appeared similar to the original growth. It has again disappeared under *x*-ray treatment. There was considerable pain accompanying both the original and the recurrent growth, which was promptly relieved in both instances.

Notwithstanding the results of the treatment of the cases in Class 5, I would advise the use of the knife in all primary tumors of the mammary gland because of the uncertainty and the difficulty in reaching deep-seated malignant cells with the ray, as evidenced by the results in the cases in Class 2 and Class 3.

RECURRENT CARCINOMAS OF THE BREAST.

In the cases of Class 6, or the recurrent carcinomas of the breast, much may be expected in prolonging life and rendering the patient more comfortable. Of the fifteen cases treated three were unimproved. Seven cases showed great improvement by the reduction of the growth and relief of pain. In five cases there was a complete disappearance of evidence of the disease. In three of these five the disease made its appearance again within a year. In the other two there has been no recurrence up to the present time, two and one-half years and four months, respectively, afterward. The recurrences might perhaps have been prevented, or at least have been warded off for a longer time, had the treatment been continued after the disease had apparently disappeared.

APPARATUS AND METHOD OF TREATMENT.

As to the apparatus and the manner of applying the treatment, I have in my laboratory two static machines and three coils, with mechanical electrolytic and mercury interrupters, all of which have been used at times, al-

though my preference is for the coil with the mercury interrupter. An old seasoned tube is desired. I do not use therapeutic tubes for radiographic work. A milliameter and a Benoist penetrometer are constantly used. The milliamperage in the tube circuit is from three-fourths to one milliampere. The distance of the anticathode from the skin varies from six to ten inches in superficial cases, and from ten to sixteen inches in deep cases. The duration of single exposures varies from ten to twenty minutes. No screens or filters have been used except to protect parts not intended to be exposed. In some of the worst cases methylene blue, combined with strychnin and arsenic, has been given internally, as recommended by Dr. Jacobi, and I think with benefit.

From a review of all the cases it is evident that practically all the cancers commencing on the skin surface are curable in their early stages by the Roentgen ray. Much benefit can be expected even in the advanced stages from the *x*-ray treatment. Cancers on mucous membranes and primary cancers of the mammary glands are to be excepted.

Of the recurrent growths that have come under my observation the recurrences after *x*-ray treatment have been as superficial as the original growths, whereas the recurrences after pastes and surgical methods were deeper and of more active malignancy.

In conclusion, one can not but be impressed with the profound importance and necessity of the prompt recognition and treatment of pre-cancerous and cancerous conditions. In their early stages they can practically all be completely and permanently eradicated by the influence of the ray in a simple, short and painless manner without leaving a scar and without any danger to the individual.

The cause of cancer is unknown, and consequently its prevention is impossible. To check the increasing ravages of this dreaded disease the only hope lies in its early recognition and prompt destruction. This latter can be accomplished in cancers originating on the skin, which constitutes so large a proportion of them all, by as sure a specific as there is in the range of therapeutics, and that specific is the Roentgen ray.

Clinical Notes

SOME MODIFICATIONS OF THE TECHNIC OF THE OPSONIC INDEX TESTS.

A PRELIMINARY REPORT.*

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It is generally conceded that even if the opsonic test is eventually proved to be of great value as a diagnostic aid and as a guide to therapeusis, its somewhat tedious and exacting technic restricts its use to those who are especially trained in laboratory work, or to those who have assistants so trained. I have recognized the necessity of simplifying, if possible, this technic, thus rendering it more useful to the investigator, even if it is not made so that the average clinician can use it.

Wright has held the opinion that the leucocytes from one individual are equally as good phagocytes as those from any other person. This may be true. But it rather looks reasonable to suppose that the white blood corpuscles might be influenced by blood conditions, as, for instance, an acute toxemia, and hence would not functionate in a normal manner. At any rate, the mixing of blood serum with washed corpuscles often very noticeably alters the normal relation of the number of corpuscles to the amount of serum.

CORPUSCLES AND SERUM FROM SAME INDIVIDUAL.

The thought suggested itself to me that if there could be added to the blood some substance which would prevent the clotting of the blood and which would not interfere with the phagocytic action of the leucocytes, or the sensitizing influence of the opsonin, the opsonic index of a blood could be obtained by using the serum and corpuscles both from the same blood and in their normal relation. This would reduce very materially the amount of labor connected with the tests and would also eliminate one or two of the possible sources of error. Plasma and corpuscles would be used then instead of serum and corpuscles which are used according to Wright's method.

In casting about for chemicals which prevent coagulation there have been considered the following: Hirudin, sodium citrate, sodium oxalate, magnesium sulphate and sodium fluorid. Not all of these have been tried. Sodium citrate, sodium oxalate and hirudin, it has been shown, can be used for this purpose. In the comparatively few tests made it is believed that a mixture of equal parts of the isotonic solutions of sodium citrate and sodium oxalate gives the best results. It has been proved that these salts, used in the proportion of one part of salt solution to four or five parts of blood, prevent the clotting of the blood. Accurate dilutions were made in each case by means of small pipettes made in the proper size and marked off in the desired divisions. The diluted blood was then placed in small vials, which were tightly fitted with rubber corks and which had previously been sterilized. The tests were made as soon as possible after drawing the blood.

Further work only will prove or disprove the practicability of this method. It has been found that these salts successfully prevent coagulation; that they do not interfere a great deal with the phagocytosis (just how little the interference is, has not been satisfactorily ascertained), and that blood so prepared contains a sufficient number of leucocytes in the smears on the slides. As it is necessary to have a large number of observations on this point to establish its value, if it has such, it is hoped that other investigators will test the suggestion.

LABELING THE BLOOD CAPSULES.

The blood-collecting capsules are labeled by attaching a small piece of adhesive plaster on which is written the name of the person from whom the blood was taken. It is rather difficult to write legibly with a glass marking pencil on the small glass tube, and there is even a great likelihood that what is written will be partially or completely erased by the handling. This method the author has also found very handy for labeling the small capsules which are used by Wright.

BACTERIA EMULSIONS.

All who have been making the opsonic tests have experienced some difficulty with the emulsions of bacteria. The tubercle bacilli are perhaps the most troublesome. Bacteria settle out of a salt solution quite readily and the tubercle bacilli agglutinate very readily so that

* From the Physiological Laboratory of St. Louis University.
* The preliminary report is published now, because I shall be unable to carry on much laboratory work for a few months.

the shaking of a settled out emulsion suspends a great number of clumps. This necessitates a preparation of an emulsion each time a test is to be performed. Twitchell and Kleghorn thought the extracting of the mucilaginous material of the bacilli with ether might sufficiently reduce the adhesiveness of the bacilli to cause an emulsion to remain stable for a longer period than otherwise. But they soon abandoned this method and prepared their suspensions each time, as does Wright by grinding the bacteria with a little salt solution in a mortar for half an hour or longer in order to isolate the individual organisms.

It can readily be seen that it is of extreme importance to have a stable emulsion of bacteria, one which can be used one time after another without the danger of the bacilli settling out and forming clumps. I suggest the following method: The bacteria are thoroughly triturated with small amount of $\frac{M}{4}$ sugar solution in a glass mortar for an hour or more.[1] The water lost by evaporation is then replaced and the mixture is centrifugalized in order to throw down the clumps of bacteria. The suspension is then returned to the mortar and pulverized acacia is added during trituration until a thick mucilage is prepared. This mucilaginous suspension of bacteria is placed in a test tube, the end of which is then drawn out to a long narrow neck and sealed. This preparation is then sterilized. Such an emulsion has been in use for several weeks. It has not been found absolutely unchangeable, but it does not settle out very appreciably in the course of a few weeks. It is necessary to have the emulsion of such a concentration that it can be diluted as many as five, six or more times, in order to get the proper suspension of bacteria. The viscosity of the original emulsion is so great that it interferes to some extent with the phagocytic action of the leucocytes. This is reduced to nearly a minimum by five or six dilutions. If it can be shown that this emulsion remains practically constant for long periods of time it may be possible by performing the tests each time under exactly the same conditions (i. e., of temperature and time) that control experiments need not be carried out each time. Once every few days or weeks may be often enough for the control tests to be made.

MIXING THE BLOOD AND BACTERIA.

The mixing is done by taking equal parts of the blood and the bacteria emulsion in the long pipettes, on which are placed the blue marks. It has been found that an ordinary glazed porcelain chemical testing plate makes a good surface on which to mix the blood and bacteria emulsion.

The mixture is then withdrawn into the tubes, which are then sealed and incubated at 37 C. (98.6 F.) for twenty minutes. If it is found that controls are not necessary it will be important that the temperature of the incubator and the time of incubation are precisely the same each time.

PIPETTE BULBS.

It is often troublesome to find pipette bulbs small enough to fit the caliber of glass tubing used for pipettes. I have solved the problem by taking the proper sized thin-walled tubing and plugging one end with a small piece of cork and a little sealing wax. By having these two inches long they are more easily manipulated than is the ordinary bulb.

1. I have found that an isotonic sugar solution does not have as much an effect on the activity of the opsonins as that of sodium chlorid. These experiments are yet to be published.

MAKING THE SMEARS.

These are made, as advocated by Wright, by the drawing of a drop of blood from one end of a slide to the other by means of the edge of another slide. In order to get a good smear the most important point is to have a smearing slide with the proper edge. This is arrived at only by trying till one is found and then preserving it.

LABELING THE SLIDES.

Most men number the slides with a glass marking pencil. This is apt to be unsatisfactory, as during the passage of the slide through the fixing reagents, the stains, the flame and the water, the mark is very liable to become removed. This difficulty I have obviated, however, by marking the slide on the underside and then placing over the mark a small piece of adhesive plaster. The pieces of adhesive were at first placed on the upper side of the slide and the number was placed in ink on the plaster, but sometimes the stains nearly obliterated the number. The other method has proved to be entirely satisfactory.

FIXING AND STAINING THE SMEARS.

Since each tube of the blood contains a small amount of mucilage a very little heat suffices to fix the smears. This is a saving of time over the corrosive sublimate fixing method.

When only three or four smears are to be prepared at once it is easiest to stain them separately. If a large number are being prepared I have found it convenient to have a small beaker for the fuchsin stain in which the slides can be placed in the vertical position. The beaker is small so that not a large amount of stain is necessary. The stain is kept warm by setting the beaker in a water bath with the water heated nearly to boiling. The beaker of stain can be used, if it is kept tightly covered, for a large number of stainings. This method is not of much advantage unless twenty or more slides are being prepared at once. The slides are decolorized with sulphuric acid and counterstained by methylene blue in alcoholic solution. It was also tried to stain the bacteria with fuchsin before they were mixed with the leucocytes, but this was not tried often enough to know whether or not it could be made to work.

SUMMARY.

By way of conclusion let it be said that it is hoped that some of the suggestions offered in this article will be found by other investigators to materially reduce the tediousness of the technic of the opsonic index tests. The points in which modifications of Wright's technic are made are as follows:

1. Washed corpuscles may not be necessary; the corpuscles and plasma of each individual's blood that is to be tested are used in their normal relationship by the addition of a solution which prevents clotting.
2. Bacterial emulsions are made fairly stable by mixing with acacia. This is apparently an important point.
3. Pipette bulbs may be made by plugging one end of proper sized thin-walled rubber tubing.
4. The fixing of smears may be done by a very little heat on account of the presence of the acacia.
5. The slides may be numbered on the under side, over which a piece of adhesive plaster is placed, and the blood capsules can be easily marked by using the adhesive and then writing on it. This is a decided improvement over the blue pencil labeling.
6. The staining with carbolfuchsin may be done in a small covered dish set in a water bath.

CASE OF TEMPORARY INSANITY FOLLOWING THE INGESTION OF LARGE QUANTITIES OF WHISKY AND CAFFEIN.

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Mr. J. S. L., aged 52, came under my care, Aug. 19, 1907, with a diagnosis of insanity, which then existed.

Physical Examination.—A tall, well-nourished man, station good, pupils equal and of normal reflex; patellar reflexes slightly exaggerated; tremor of the tongue and hands; tongue heavily furred; temperature normal; heart and lungs normal; urine acid, sp. gr. 1.025; no sugar and no albumin.

Personal History.—Is married, father of three children; has had all the diseases of childhood; no venereal history. An immoderate user of alcohol at indifferent times; has been in institutions twice for so-called insanity. It is well to say here that he committed himself once to get away from liquor, but went to his business every day from the asylum, and was committed once for alcoholism by two physicians.

Mental Examination.—The patient is delusional; believes his wife is murdered; can not be reasoned out of this; thinks he is a great man, and that he is the only one who has the ability to talk with God by shuffling his feet, through which members he receives the messages; believes he is master of mental telepathy; thinks he can talk to any one at any distance by this method. His delusions, which apparently arise from the illusions and hallucinations of sight and hearing which seem rapid and continuous, are chiefly of a religious nature. He is suspicious and distrustful; his chain of communication through unseen agencies, and his anger at being doubted lend color to monomania. He is very voluble of speech, which is clear and distinct.

As his mental condition cleared up so quickly on his two previous commitments, in fact within a few days, the question at once arises whether this man was ever insane in the true meaning of the word, or if he simply had a confusional condition arising from over-stimulation. A careful examination of the following account of himself will do much to clear up some difficult points in his case, which is unusual from the apparent gravity of his mental condition, also from the fact of the short duration of his symptoms, and that he knew all the time he was not himself, and that he was under the control of something which he could not understand. He gave a clear history of consuming 2½ quarts of Scotch whisky in four days. He was not drunk at any time, but realized that he must stop, which he did at once, and began taking caffein as a bracer, so that in a short time he had taken the best part of two bottles and soon began to get happy. I now give the exact story of himself as he remembers it:

Previous to this time I had not used liquor for two years, but I had reached a state where I could not go any further. I had a severe neuralgia and began by drinking whisky moderately, and drank harder and harder, so that in four days I had taken about 2½ quarts of Scotch whisky, and stopped short; but I felt the reaction, and began taking caffein as a bracer and soon commenced to feel good. So I took a trolley ride to Willow Grove, and I commenced to hear peculiar noises in the bumping of the wheels, which soon began to say things. This interested me, and I wondered what it meant. I asked the motorman if he also heard these noises and, of course, he said he did not. I stayed for the concert at Willow Grove, and had this same experience coming back, only the noises were more marked and the forward motor began talking to the backward one, telling each other to "hold up." The motors held a long conversation. They talked about their work and they would say, "Let up," "let her go," etc. I now believed there was something more in electricity than most people knew. I thought it contained peculiar spirits. After I got off the car, I heard them still talking as far as my ear could reach. I then went home and took more caffein and thought I would take another ride, as I enjoyed this one so much. It was raining, and I had the same experience in this car also. Coming home I bought more caffein. This night I had vague ideas that I could talk to others at a distance. I was then approaching such a condition that I could hear words in running water, and while the words were there, I could not talk for any length of time as I lost the trend of conversation, and then I tried the gas and got the same result there. Now I began to get messages through the air; from the locomotive whistle, for instance, and more so from its puffing. I slept well that night, and the next day went to Willow Grove again and found that each individual motor had a different tale to tell, and this was the first day that I was able to hold a distinct conversation with them. My whole idea then was to test out the motors. Some of the motors would be profane, some vulgar, and some very religious, and I talked with these motors that day and I got good results and their advice was very good. Even when the motors would talk in a crude manner, their suggestions were good.

Early in the evening I got into communication with people at a distance. This was brought about from the fact of my trying to get into communication with my wife, who was away, and as I did not know where she was, I could not reach her, but I got into communication with a woman in New York whom I did not know, but who knew my wife and she told me my wife was not in my circle. She told me she was at the Engleside, at Beach Haven, and she told me a great deal more. I was receiving these messages through my feet, and she told me I could call up anyone. So I then got into communication with a strange woman in Boston, who told me I could talk with my sister in Brooklyn, and I talked with her for about two hours when she shut me off. I heard no distinct voices in that conversation, but my power being so great, I thought I would try other things now. Then I felt that I could talk to the departed. I tried it and found that I soon got in communication with my father who died a year ago. This was extremely exhilarating and delightful. He told me he was very happy, and made many suggestions, and asked me to collect all his old books and papers and give them to a certain library.

I was in a state of ecstasy; never felt so well in all my life. I felt as if I had become very powerful from a psychic standpoint. I now talked with my mother, and thought she had returned to earth again. She told me that Heaven was divided and subdivided, and soon space became annihilated. She told me where I could find her, and at last, becoming very tired, I felt that as this power might leave me, I would write out the general results of the evening. I did not feel excited, but took a bath and went to bed.

I slept from 3:30 a. m. until 9 a. m., and took more caffein on awakening, and I thought I would try my powers again as soon as I awoke, which I did. I shuffled my feet and asked if anyone wanted me, and found I was in communication with the woman in New York, who put me in communication with my wife, who told me she would be home at 8 o'clock that night, that she would see me, and that I should go to Willow Grove again that afternoon. I now took more caffein. I got my breakfast on Chelten avenue, and took the number of the cars I rode in, and made note of the different motors and found I could talk with each individual motor, and the motors talked back and forth to me and about me and told me all about my previous life. All day long at Willow Grove I questioned whether this thing could be or not. I then began to get emotional and would shed tears very easily. I had no fears whatever. I went out into the old picnic grounds and shuffled my feet and asked for advice and it came from God, saying to me, "Go home at once." There was no distinct sound in these voices, but after drinking lots of black coffee, I started for home and as soon as I got into the car the motor began to talk to me again. So I made up my mind that I would take my wife to hear this curious thing on the following day.

I got home about 7:30 p. m., and cooked supper for my wife. I took more caffein and called her up, but she told me she was in a railroad accident at Jenkintown. I waited and still she did not come, and asked again on calling her up if anybody would like to speak to me, and the voice said "Yes," and it was God himself who spoke to me this time and told me my wife was dead. I then became troubled and depressed, and looked out of my south window. I beheld the most beautiful sight I ever saw in my life. The whole southern skies were full of bright angels singing to me. I now began to feel depressed again, and thought all had gone to pieces, and shuffling my feet I called up God at once, and asked him what I should do, and he told me to take Dr. C. to the police station and get my wife's body. I called Dr. C. over the telephone. He came to see me but would not go with me, and God kept telling me "stick at him, stick at him," and the next thing I knew I was in the station house, and believing I was in the hands of God, I gave up very quietly, but still I carried on my mental telepathy, whenever there was any sound to do so with, and the messages came to me as if by wireless telegraphy. I told the police to do what they pleased with me as I was in the hands of God and he would take care of me.

I remember having a hearing and also that the judge would not let me talk. A doctor examined me, and I said little to him and he little to me. I still felt all right, and still believed in what I had seen and heard, and continued to do so for several days, when I began to question things. They did not now appear to me as facts, as I found I could corner some of these voices, but I still had one mighty guiding spirit of another sphere, and this one led me to believe I was to be the controlling spirit of this sphere, but not yet, as I was not yet purified, and it would happen only when that sphere and this earth were in conjunction. I now began to question still more as to whether these things were facts, or whether I had been fooled. My mind began to clear up quickly, and I soon came to the conclusion that my condition had been the result of the caffein and the whisky.

This man's mental condition began to clear up a few days after being admitted to the almshouse, and in about ten days or less he was in a condition to laugh at his delusions, illusions and hallucinations, all of which he still remembers well, as can be seen from the above account of himself, which he gave me six weeks after his discharge.

We now come to the question as to the probable diagnosis of this case, and before arriving at any conclusion it is well to remember that although this man used alcohol immoderately at intervals, he did not have mania à potu at this time, for the following reasons: His hallucinations and illusions were mostly of an exceedingly pleasant character. He would eat well, whereas patients with mania à potu do not; and he did not have terminal mania. Now, let us consider a person with delirium tremens. He apparently did not have this condition either because his hallucinations were pleasant; he did not see snakes and other horrible things; he was not depressed, but, on the contrary, extremely happy; his skin was not cold and clammy; his temperature was normal; pulse 80 and of good volume; his muscles were not weak; he had none of the characteristic fears, and he was not noisy.

Let us look at the physiologic action of caffein in large doses on the brain. According to Bartholow, who has a fuller account of its action than I can find elsewhere, it causes, at first, drowsiness, but this is very quickly followed by wakefulness, excitement, muscular tremor, mental confusion, hallucinations and delirium. There cerebral effects soon terminate in deep stupor, but this is probably the result of exhaustion. We now have a peculiar mental state, which would seem to be a condition of mental confusion arising in an apparently normal man from overstimulation, first by alcohol and followed by caffein. There seems to be little doubt that most, if not all of this man's peculiar symptoms arose from caffein poisoning. Dr. I. P. Willits, who saw this case in consultation with me a number of times, also believed his condition to be the result of the action of caffein in overwhelming doses on an already overstimulated brain.

The treatment consisted of isolation, active purgation with magnesium sulphate, a liberal, non-stimulating diet; rather large doses of sodium bromid, with hypnotics, at bed-time, seemed to work well. Liberal quantities of water were given and, finally, suggestion was tried, which in this case seemed to help the patient. As to the amount of caffein consumed: On the first day he took a six ounce bottle of a certain preparation which contained more than one grain of the hydrobromate of guarana to the dram. The second day he took a six ounce bottle of another preparation, each dram of which represented one grain of caffein citrate and 1/100 of strychnin sulphate, so that more than 100 grains of caffein were taken in two days. As the hydrobromate is more active than the citrate, it is little wonder that this man had such vivid mental pictures.

PHAGOCYTIC WORK PERFORMED BY THE KIDNEY CELL OF THE FROG.*

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SYRACUSE, N. Y.

While *Rana pipiens* was being utilized for class study in our laboratory abnormal conditions were observed in the left corpus adiposum. The normal corpus consists of an irregular mass from which arise several finger-like processes which may branch. The color is yellow and the blood vessels show prominently on the surface. The whole structure is attached to the anterior end of the kidney by a membrane. In origin it is probably derived from the same kind of cells as those that constitute the kidney; and in the adult its blood vessels pass through the kidney, there being none that pass directly from the corpora to the dorsal aorta.

The abnormal corpus was reddish in color and roughly rectangular in shape. There were but two processes arising from the central mass. The central mass was 15 mm. long, 9 mm. greatest width.

A microscopic study of this corpus revealed the presence of numerous blood corpuscles in various shapes. The blood corpuscles were so numerous that the finer structure of the corpus could only be made out with difficulty. Evidently a hemorrhage had occurred of sufficient size to distend the corpus out of all ordinary shape. A further examination of the frog, with a view to determining the cause of this hemorrhage, showed a small collection of blood on the dorsal side of the cœlome just beneath where the ilium joins the last vertebra. The ilium had been broken and probably the breaking caused the hemorrhage.

The fat cells in the corpus were of various shapes and much scattered. There were numerous nuclei in the connective tissue which were dividing amitotically with no increase in size after. This process is similar to karyorrhexis in human degenerating tissue.

* Contribution from the Zoological Laboratory of Syracuse University. The full report of this case will appear with eight drawings in the *Anatomischer Anzeiger*.

A study of the kidney of this animal showed the presence of numerous plasma-staining bodies in the lumen and in the cytoplasm. It was rare to find any with a nucleus, but occasionally one would be found in the lumen. The kidney cells were apparently engulfing these bodies. In some places they filled the cell. The effect on the kidney cells was profound. The nuclei were not as numerous and lacked distinctness when compared with normal cells. The cell walls between adjacent cells were largely absent and numerous vacuoles were present in the cytoplasm. The degeneration of the red blood corpuscles begins in the corpora adiposa and is completed in the kidney.

The animal was normal so far as observed and was kept for several weeks with many others in an aquarium before being killed. It is impossible to be sure that the kidney cells would have succeeded in their task of removing all of these blood corpuscles.

That different cells of the body may assume this phagocytic rôle is not unknown, but so far as I have been able to consult the literature, I find it unusual for the kidney cells to assume this rôle and that it has not been previously reported for the frog.

PERIPHERAL OBLITERATIVE ENDARTERITIS.*

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NEW ORLEANS.

This condition, while not common, is yet met with sufficient frequency to warrant a careful study of the cases coming under observation. It generally attacks men in the most active period of their life, between the ages of 25 and 40. No cases, so far as I have been able to find in the literature, have been reported in women. Several cases have been studied with sufficient thoroughness to furnish a good illustration of the pathology.

CASE 1.—Man, aged 38, single; a carpenter; has had all the diseases of childhood. He has also had gonorrhea; he drinks alcoholics moderately, but has been a cigarette "fiend" for twenty years.

History.—April, 1905, the toes on the left foot began to burn, became red and when he walked they cramped and drew up. This condition continued until about November. When he was at rest he did not suffer, but the burning commenced immediately on moving. During November an ulcer appeared on the plantar surface of the fourth toe at its base, and a little later a red blotch appeared on the dorsum of the foot. Shooting pains then commenced running from the leg into the foot. These were very severe; at first they occurred only during movement, but later they were constant day and night, preventing sleep and any kind of rest. The patient became emaciated to an extreme degree. About January, 1906, dry gangrene occurred in the fourth toe, and almost at the same time in the great toe. These toes were amputated; the wound at the base of the great toe refused to heal, and an ulcer formed. About six weeks later this was dissected out, but the wound still refused to heal, the only effect of the operation being to lessen the pain, which now became bearable, and the man was able to get some sleep and to recover some of his former good physique. After a short period the pains began to increase in severity until he was again forced to seek surgical relief, and entered the hospital Feb. 17, 1907. A thorough examination, including urinalysis, revealed nothing of interest, except in the arteries of the affected limb, the pulse in the dorsalis pedis and posterior tibial not being perceptible to the finger; in the other limb both could be felt and were apparently normal.

Operation.—Feb. 18, 1907, under general anesthesia, Dr. Matas did a modified Lisfranc operation to test the condition of the tissues at this point, the patient not agreeing to a higher amputation. Very few vessels were encountered which required ligation, although the tissues assumed a healthy pink when the constrictor was removed. The wound was closed with a few silkworm gut sutures and an appropriate dressing applied. The patient was rudely awakened from the postanesthetic sleep by violent lightning-like pains darting down the limb into the wound; these continued with short intermission throughout the day, subsiding by night, except when the patient attempted to go to sleep, when they would return with increased severity. These pains banished sleep for four days and nights, then they began to subside and short naps were possible. Some elevation of temperature (103 F.) occurred on the second day. On the third day when the wound was dressed it was found infected; this condition cleared up under moist antiseptic dressings. The temperature dropped to normal by the seventh day and the wound healed by the sixteenth day. The shooting pains in his limb persisted up to a short time before his leaving the hospital, gradually growing less severe.

Result.—He left the hospital well, March 22, and was last seen in the latter part of September, 1907, and reported no further trouble.

M. Panas,[1] Paris, reported one case: The patient, aged 35, of nervous temperament (with gouty father and nervous mother), had lancinating pains in the upper extremity, which ceased after three months, to occur in the lower extremity. Several red spots appeared on the left leg, followed by gangrene of the left toes, which progressed to adjacent parts of the sole of the foot, requiring amputation at the middle of the leg, as all the arteries of the foot seemed obliterated. After amputation, the pain continued unabated in the stump and occasionally on the other side. Many remedies were tried without avail until sodium salicylate was used, which put an end to the suffering. Examination of the amputated member showed, in addition to vascular lesions, alterations in many fibers of the anterior tibial nerve.

M. A. Laveran,[2] Paris, reported the case of a man, aged 26, who contracted malaria in Madagascar in 1884. He was very ill for several weeks. He had dysentery and malaria in Tonkin in 1889, and was ill for several months. In 1890, the first symptoms of phlebitis of the left leg occurred, followed by endarteritis; there was some albuminuria. He suffered severe pain for months and was unable to put the limb on the floor. Amputation below the knee was done in 1892. The same trouble occurred on the opposite side, requiring amputation in 1893.

ETIOLOGY.

The etiology of this condition is not clear. It is possible that there may be predisposing causes in some cases, such as an underlying constitutional taint, syphilitic or gouty, preparing the vessels to respond to irritating causes. Exposure to cold may also create a predisposition. The long-continued intoxication with any substance capable of producing arterial irritation or vasoconstriction may produce the condition; such substances are alcohol, tobacco, lead, uric acid; acquired syphilis or renal disease should also be considered.

In the case I report, it is highly probable that the excessive use of tobacco for many years was an active factor in producing the condition.

Chronic malarial infection may indirectly become a factor; malaria and Reynaud's disease are not infrequently associated. In one of the cases reported from the French press, the long-continued and repeated at-

* A contribution from the surgical clinic of Tulane University.

1. Endartérite oblitérante. Bull. de l'Acad. de Méd., 1894.
2. Observ. d'endartérite oblit. avec gangrène des extrém. inf Bull. de l'Acad. de Méd., 1894.

tacks of malaria may have caused the renal disease and this may have brought about the arterial trouble.

PATHOLOGY.

The process is a progressive one, proceeding from the periphery toward the trunk, the artery being gradually destroyed until only a fibrous cord is left, resembling the remains of the ductus arteriosus.

Amputation does not always arrest the trouble, the process continuing in the stump until a higher level is reached.

As the process advances there is first a peripheral thrombus lining the walls of the intima; this is usually channeled, and the blood in a much diminished stream finds its way through this channel; as the disease progresses, this is finally closed.

The thrombus is not at first closely adherent to the vessel walls, but becomes so later. It is of the laminated variety, such as is found in aneurisms, and can frequently be dislodged or withdrawn from the vessel ends; sometimes it is several inches in length, and the central channel, when it has not yet closed, can be demonstrated for its entire length. In addition, the arteries undergo a diminution in size, sometimes being much reduced, with their coats much diminished in thickness, but otherwise normal. Later, as the process advances, they become fibrous. Embryonic tissue develops from the walls of the vessels and aids in the obliterating process. No calcareous deposits have been reported in any arteries examined. The veins undergo similar changes, generally commencing somewhat later than the arteries.

In only one case was any change noted in the nerves, which was reported in the history.

TREATMENT.

The lancinating pains are usually the first symptoms that prompt the patient to seek medical relief. All attempts to relieve them or to bring about an improvement in the area of diminished circulation have proved failures. The remedies and methods that have been used are legion. Heavy doses of opiates only slightly obtund the pains.

Salicylates, except in the case reported, in which they relieved the after-pains in the stump, have proved of no avail. Their early use in cases that are detected before the pains occur and in which the circulation is beginning to be restricted, may prove of some value, especially in those cases in which gout, uric acid or its congenors are a predisposing or exciting cause.

Amputation is the only method that has afforded relief, and it should be done sufficiently high to secure unaffected arteries, capable of nourishing the flap and beyond which the disease is not likely to progress.

Improved Technic for Prevention of Ophthalmia Neonatorum.—H. Hellendahl has an article on this subject in the *Med. Klinik*, December 1. He is inclined to attribute to faulty technic the failures and inflammation sometimes resulting from the instillation of silver nitrate. All this could be prevented by a dropper that would safely deposit one drop and only one drop in the eye. He uses for the purpose a fused tube containing 0 5 c.c. (7.5 grains) of a 1 per cent. solution of silver nitrate. The tip of the tube is broken off and it is inverted in a capilllary pipette into which some cotton has been loosely pushed down to fill the entire tip and allow a little tail to project below. The cotton soaks up the fluid and a drop slowly gathers on the projecting wisp below, whence it can safely be dropped into the eye.

AN EPIDEMIC OF INFANTILE DIARRHEA, APPARENTLY CAUSED BY THE BACILLUS PYOCYANEUS.

THOMAS B. COOLEY, M.D.
DETROIT.

This epidemic, which occurred among the babies in the Woman's Hospital and Infant's Home of Detroit, seems worth reporting, not only because of the relative rarity of this bacillus as a cause of infant diarrhea, but also because of the probable means of spreading the infection, and some unusual clinical features of the disease compared with other reported cases of infection by the same organism.

The babies affected belonged to three groups: (1) The older ones, between 1½ and 2½ years, who were able to walk, to eat some solid food and who were in the playroom during the day. (2) The comparatively healthy bottle-fed infants in the nursery. (3) Those who by reason of sickness or malnutrition needed especial care and were kept by themselves in the infirmary.

The milk given these children comes from two sources. The older children, and the better nourished of the younger ones, receive milk from a dairy which furnishes a very fair grade of Jersey milk, while the more delicate children are fed on formulas made up with milk from the Walker-Gordon farm. The babies are cared for by nurses in the training school, and by women who have been delivered in the hospital and who pay for the care of themselves and their babies by doing such of the hospital work as they can.

On October 12 one of the older children, who was fed on the Jersey milk, bread and cereal, and cared for chiefly by his own mother employed in the hospital, developed diarrhea, without fever and with no special prostration or loss of appetite. There was nothing remarkable in the stools, and at the time no special attention was given to the case. The child quickly became better under routine treatment, but had various relapses, and as he was later found to be suffering from the same infection as the rest it is probable that his was the first case.

On October 24 another one of the older children in the playroom had diarrhea, which again was not severe, and without fever. On November 4 three more of the playroom children were affected. These cases were so mild that the children remained at play, and my attention was not called to them by the interne until a week later. On November 5 one of the infirmary babies had a similar diarrhea. On November 7 and 9 two more of the older children developed diarrhea, and on November 16, 17 and 18 eighteen babies, including all but one of the six infirmary babies, became ill.

At this time it was evident that we had to do with an epidemic resulting from some specific infection, and that this was not an infection of the milk, because babies receiving milk from the two different dairies, prepared in different ways, were simultaneously affected. It was clear, however, that the infection was conveyed by the nursing bottles, because none of the breast-fed infants were sick. It seemed certain, therefore, that the infection was transferred to the nipples by the hands of the women who changed diapers and fed the babies. Accordingly, such measures as were possible were taken to avoid this.

The sick children were segregated so far as possible, extra nurses were put on, and instructions were given

that no one was to go from one child to another without thorough cleansing of the hands, and that no article was to be used for any two children without a sterilization between. There was not, however, vacant space enough to admit of thorough sterilization of the rooms, even if this had seemed advisable, nor was the force of nurses large enough so that we could dispense entirely with the services of the untrained women; and to the utter inability of these latter to understand the necessity of and carry out thorough cleanliness, in spite of strict instructions, is probably due the fact that between this time and December 16 the epidemic spread gradually to ten other babies, so that eventually all but one of the artificially-fed children were sick. No breast babies were infected; but one who was weaned during this period, owing to failure of the mother's milk, had a mild attack.

As soon as it became evident that there was a common infection efforts were made to discover the infective agent and its source. Stains were made of fresh smears from many of the stools, and the facilities of the Detroit Clinical Laboratory being placed at my disposal, Dr. Sill, the superintendent of the laboratory, and myself made careful studies of cultures from nine typical cases. In the cultures it soon developed that in six of them the predominating organism was a bacillus of rather varying form, producing a shiny and sticky growth on agar and forming rapidly an intense blue-green pigment. This pigment gave the chemical reactions of pyocyanin, and inasmuch as the predominating organism in the other three was a bacillus of the same morphologic characteristics, but without pigment formation, we should have been convinced at once that the *Bacillus pyocyaneus* was the cause of the infection, had it not been that in a number of the smears made from fresh feces the principal organism, except the colon bacillus, was what appeared to be a large, deep-staining coccus, usually occurring in pairs, and much time was spent in trying to isolate this from cultures. We found later, however, that our strain of pyocyaneus, grown on glucose agar, tended to assume this same coccus form, so that we felt justified in assuming that we were dealing with a pyocyaneus infection throughout.

Clinically, these cases presented no constant or characteristic features, except that of a very obstinate diarrhea, difficult to check and tending to recur on every effort to feed the babies during convalescence. The stools varied greatly in appearance. In the older babies they were often white, of about the consistency of thick cream; in the younger ones they were more often grass green or dark green, small, and occasionally but not constantly containing mucus. In two very severe and protracted cases, which finally recovered, mucus was constant and tinged with blood. Green stools were usually colored with bile pigment, but a number of stools showed around the edges what seemed a very typical coloring with pyocyanin. The cultures which proved to be the best pigment-producers came, however, with one exception, from perfectly white stools.

Fever was not the rule. It occurred in only ten out of thirty-seven cases, and did not go above 102.6 in any case. In two of the ten cases it was due, partly at least, to complicating otitis media, which subsided in one case without paracentesis. In the other case the fever disappeared after the operation. In two other cases the fever appeared during convalescence and seemed to be due to inanition.

A symptom common to many, especially of the smaller babies, was great abdominal distension. Two children showed temporarily quite decided edema, without nephritis. Vomiting was a symptom in only one case.

With most of the older and stronger children, as has been said, the disease was mild, but prone to relapse. In the younger ones movements were more frequent, though seldom very numerous, and prostration was greater. Emaciation was rapid in most of the prolonged cases, owing to inability to assimilate any food. Appetite was well retained by nearly all and thirst was quite marked.

There were nine deaths in all. Of these six were among the feeble infirmary babies, already badly nourished, one of whom had also a gonorrheal ophthalmia. Of the other three, originally stronger, one died in convulsions attendant on an acute otitis media, one was a baby only 4 weeks old, and the other had a very prolonged and obstinate case with several relapses. Autopsies were held in four cases and no definite lesions were found anywhere, profound emaciation, with anemia of all the tissues, being the characteristics. The intestines showed a few hyperemic patches, but were mostly pale, collapsed, and in no case ulcerated. Cultures from the heart's blood and spleen were sterile. The findings in all four cases were practically those of death from starvation.

The treatment used varied according to the age of the child and the severity of the case. The mild cases among the older children did well on calomel and starvation for a day, followed by dilute boiled skim milk. All the children had calomel at the start and occasional doses of castor oil later, and all the severe cases had colon irrigations twice daily, usually with salt solution, though tannin was used with good results in the case of the two children who passed a good deal of mucus. Bismuth was used when stools were very frequent, and opium occasionally, as seemed necessary.

Feeding of the smaller babies after the initial starvation was very difficult and unsatisfactory. The very sick ones took nothing well, but did better on small amounts of dextrinized meal than on anything else; with some of them this had to be continued for several weeks, sometimes alternating with broth. Sour skim milk prepared with pure cultures of the lactic acid bacillus was not a success with any, nor was albumin water or any of the dried milk preparations well borne, except that some took malted milk well when convalescence was established. Barley gruel did not do so well as the dextrinized meal.

Diarrhea from infection with the *Bacillus pyocyaneus* is by no means unknown, and isolated cases and small epidemics have been reported by Escherich, Nobécourt, Kosse Lesage, Thiercelin, Meunier and others. Most of the reported cases, however, differ from those I have described in that sudden high fever and other signs of severe toxemia have been present, although general infection by the *B. pyocyaneus* has not been observed. The pistach-green color of pyocyanin seems to have been more common in the stools in these other cases than in mine.

The *B. pyocyaneus* is not found normally in the child's stool, but is found occasionally on the skin and in the feces of the healthy adult, as well as in certain suppurative lesions. I have been wholly unable to discover where it may have come from in these cases.

TWELVE YEARS' EXPERIENCE IN TREATMENT OF SYPHILIS BY INTRAVENOUS INJECTIONS OF MERCURY, ARSENIC AND IODID OF SODIUM.

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I was glad to see the article by Dr. G. Frank Lydston[1] regarding the intravenous injection of mercury in syphilis. My own experience with this method during the past twelve years has been so satisfactory to both patients and myself that I only resort to internal medication or ointments if the patient is so situated that he can not see me as often as I find necessary, or in cases of inherited syphilis in small children.

MERCURY.

I have never used so large an initial dose of the bichlorid (¼ to ½ gr.) as Dr. Lydston, but as a rule have gone up gradually from 1/20 or 1/15 of a grain to ⅓ or ½ grain. In a few cases with initial doses of from 1/8 to 1/6 grain of the drug I have seen intense gastrointestinal disturbance, nausea, vomiting and bloody mucoid diarrhea, the patient at the same time suffering intensely from pain and extreme prostration.

While the syphilitic can undoubtedly stand more mercury than the non-syphilitic, still the individual susceptibility varies so much that I believe, and that is my experience, that one is on the safe side if he starts with a small initial dose and increases the amount rapidly. Especially is this caution indicated in cases of nephritis or arteriosclerosis. In severe cerebral or spinal disturbance I do not hesitate to use large initial doses.

Iodid of sodium can be used intravenously when indicated in fairly large doses of from 10 to 30 grains. It is not irritating as the potassium salt and not so troublesome and painful as are intramuscular injections of iodopin. I have never used or heard of any one else injecting the iodid intravenously; but I have been using it for years, and with proper precautions I have found it of great assistance in patients who refuse to or can not take it internally.

ARSENIC.

At first I used Fowler's solution in combination with mercury, having had good results with Donnovan's solution internally, but later I used cacodylate or sodium, giving as much as 3 grains at a dose. I found that the syphilitic did better, and I attributed it to the fact that the remedy was indicated on account of the anemia from which all syphilitics at first suffer. I was very much, pleased, therefore when I saw the report of Dr. Paul Salmon[2] of the Metchnikoff Laboratory, followed by Dr. O. Lassar's[3] report of cases of syphilis cured by the intramuscular injections of atoxyl (meta arsen anilin) in large doses—from 7 to 16 grains.

While I had thought arsenic as assisting the mercury of great value, it had in reality acted as a specific when used in large doses.

I tried atoxyl in 1905 when it first appeared on the market, but had procured either a poor specimen of drug or had boiled it too long while sterilizing it, thus decomposing it. At least in cases in which I used the atoxyl it acted badly. The patients complained of chills, fever, nausea and pains all over the body. I therefore returned to the cacodylate of sodium. Recently, however, I secured a fresh supply, and by boiling the solution barely a minute I have had no bad effects from its use. Care should be taken, however, as a too prolonged use of atoxyl has been followed by severe manifestations of arsenical poisoning owing to accumulation.[4, 5] Thiosianamin in combination with arsenic, mercury and iodid of sodium in tertiary syphilis is indicated in those cases in which there are gummatous deposits, as it softens the scar and the pathologically infiltrated and thickened tissue, thus increasing the blood supply to this tissue and permitting the other drugs to penetrate and act on it. In 1905 Felix Mendel[6] of Essen prepared a solution of thiosianamin and salicylate of sodium, which he called fibrolysin. As this preparation, however, formed a precipitate when the bichlorid of mercury was added, necessitating two injections, I experimented and found that by adding the thiosianamin to the bichlorid of mercury and iodid of sodium solution and boiling I obtained a clear solution, to which I then add the atoxyl or cacodylate of sodium. I use from 1 to 3 grains of the thiosianamin at a dose.

This combination acts rapidly in tertiary syphilis, especially in cases in which there are gummatous deposits in the brain or spinal cord. Recent cases of syphilitic locomotor ataxia, and most cases of tabes, which, according to Erb[7] and other authorities, are caused by syphilis, if taken early react promptly and can be permanently cured. Even in cases of some years standing when there has not been too degenerative sclerosis the patient can be greatly improved and sometimes cured.

In tertiary cases especially, my experience is that it is best to commence with small doses of mercury and it is to be remembered that an attack of gastric crisis in a case of tabes must not be attributed to the medicine.

It is preferable in using the injection to select a vein at the elbow. Chronic syphilitics, fortunately, as a rule, have large thick veins owing to the well-known effects of the syphilitic virus on the walls of the blood vessels. Tie a bandage above the bend of the elbow, let the patient extend the arm rigidly and close the hand firmly. Wipe the skin over the vein with a mixture of ether and alcohol, freeze with ethyl chlorid and insert needle. It is best to use a large Leur glass syringe, so that one can draw the blood into the syringe and mix it with the solution, thus forming an albuminate which is less apt to irritate the walls of the veins. Remove bandage, let patient open the hand, and inject slowly, drawing the blood back into the syringe two or three times so as to mix it well with the contents, and so as to be sure that it has not caught in the walls of the vein. Should a few small bubbles enter the circulation it will do no harm.

In conclusion, I wish to say that in a previous practice of thirteen years in treating syphilitics I have never had the quick results that I have had since using intravenous treatment. If this treatment is carried out faithfully syphilis is cured more rapidly and permanently, there are fewer relapses if any, less mercury is used, and hence less bad effects on the system of a medicine, which, however useful and indicated, is still a metallic poison foreign to the body cells. The patients seldom lose weight; on the contrary, on account of the large doses of arsenic, they are apt to gain weight and hence are in better spirits and less subject to fits of depression.

1. THE JOURNAL A. M. A., Nov. 16, 1907.
2. Compt. Rend. Hebd. de la Société de Biologie, 1907, No. 10.
3. Berl. klin. Wochschr., June 3, 1907.
4. Comptes Rendus Hebdomadaires, 1907, No. 13.
5. Münchener med. Wochschr., May 30, 1905.
6. Therap. Monatshefte, February, 1905.
7. Krankheiten des Rückenmarks.

A NEW TEST FOR THE DIFFERENTIAL DIAGNOSIS OF APPENDICITIS.*

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I am not unmindful of the assurance I display in announcing a new test for the differential diagnosis of appendicitis. The test is but a more rational method of applying abdominal palpation, resulting from a better understanding of the cause of the pain produced in an inflamed appendix by abdominal compression. I have found the procedure so simple and satisfactory that I hope it may prove so to others. I have applied to it the term "cecal distension test" as expressive of the procedure.

DESCRIPTION OF THE TEST.

The patient is best placed on a hard, low bed or table. The knees should be flexed and two pillows placed under the head and shoulders, giving a dorsal semirecumbent position, rendering the abdomen flaccid for the most satisfactory abdominal compression. The surgeon stands on the patient's left, facing the feet. The palmar surfaces of the fingers of the right hand are placed under the patient's left inguinal region and the fingers of the left hand used to reinforce the right. Deep pressure is then made backward, slowly drawing the fingers deeply and forcibly upward under the left costal arch. This procedure is intended to compress the lower portion of the descending colon and force its gaseous content into the transverse, and thence to the ascending colon. The pressure being maintained with the fingers of the left hand, the right hand is then removed and placed over the upper portion of the descending colon, or better over the transverse colon, and the fingers are quickly and forcibly depressed. A gaseous compression wave will travel across the transverse and down the ascending colon and on arriving at the cecum will produce cecal distension, yielding a typical sharp pain in the right iliac fossa, if inflammation of the cecum or appendix be present.

PRINCIPLES OF THE TEST.

The diagnosis of pathologic conditions in the abdomen is peculiarly difficult because of the impossibility of direct palpation or examination of individual organs. If traction at will could be made on an inflamed tube, gall bladder or appendix, an exact diagnosis could be better made. Whenever any inflammation exists about the cecum an abnormal amount of gas collects in the colon. This is not usually transferred to the small intestine, owing to the sufficiency of the ileocecal valve. The compression of this colonic gas and the descent of a gaseous compression wave into the cecum produces a sudden motion of the inflamed area, exactly as though a cord were attached.

There may be some differences of opinion as to the exact cause of the pain. After much study, with operative and postmortem examination, I have reached the following conclusions: Distension of the bowels or appendix does not cause pain. Pain is rather relieved, as the visceral distension from toxemia increases during the course of intestinal diseases. Neither is pain relieved by rupture of the appendix, which would often render distension of that organ impossible. As distension increases, both pain and muscular action decrease. For this reason, the pain of an inflamed appendix seems inseparably connected with motion or muscular action. Dull aching or throbbing pain in appendicitis may be caused by swelling and peritoneal tension. The typical cramp-like pains of appendicitis are probably due either: (1) to tetanic contractions of the muscular walls of the ileum or appendix, compressing the nerves, like a cramp in the leg, or (2) to peristaltic or other visceral motions, pulling on sensitive adhesions. In case of the test, the increased intracecal tension might induce counterperistalsis in the ileum, which would be transferred to the appendix; or peristalsis might be induced in the appendix by sudden cecal distension independent of peristalsis in the ileum, or distension movement might pull on sensitive appendicular adhesions—we know that an adherent inflamed appendix is much more painful than a free one. In any case the pain is due to distension motion or to induced peristalsis. Pain by direct compression at McBurney's point is probably produced by similar colonic motion, or peristalsis, rather than from actual palpation of the appendix.

APPLICABILITY OF THE TEST.

The cecal distension test, if carefully carried out, will demonstrate conclusively, I believe, the presence or absence of active inflammation in the cecum or appendix by the typical colicky pains usually following in the right iliac region. If the pain during the attack has been reflected to the pelvis, gall bladder, epigastric or umbilical region, the induced pain is also likely to radiate there.

Diseased conditions of the small intestines, stomach, gall bladder, kidney, ureter, bladder, ovary, tube, etc., may simulate typhlitis and appendicitis, causing tenderness and pain at McBurney's point, but in my experience they do not respond to this distension test, unless secondary inflammation has invaded the walls of the cecum or appendix. This test is of particular value when rigidity and tenderness on the right side make a direct palpation painful or impossible.

Whether the upper portion of the descending colon or the transverse colon be used for the production of the compression wave will depend on circumstances. Fortunately in the diseases under consideration the stomach is usually empty and the transverse colon is readily located by percussion. When the colon is loaded with fecal matter, or assumes the V form, hanging downward toward the symphysis, or the small intestines are much distended, or the abdominal wall abnormally fat, or the rigidity and tenderness have extended to the left side, the application of the test will have to be varied. Often the method will then consist merely of a vigorous massage of the left colonic region in an antiperistaltic direction. The procedure I have outlined, I find, gives the most satisfactory compression in the majority of cases. It is usually better to induce the compression wave at the transverse colon rather than under the left costal arch, as in this way more of the descending colon can first be compressed and one is surer of striking the transverse colon than the deeply situated splenic flexure.

HISTORY OF THE TEST.

Some three years ago I visited a woman on the second day after an operation for acute appendicitis. Her abdomen was slightly distended and she was complaining of pains, which, she said, were exactly like those suffered before the operation, and expressed some doubts as to her appendix having been removed. As soon as

* Read before the North Texas Medical Association, Fort Worth, Texas, December, 1907.

the rectal tube was passed she expelled a large amount of gas, and the pains never recurred. At this time I had under observation a young woman with a history of repeated attacks of pain and tenderness in the right iliac fossa. After her attacks a localized tenderness would remain for days, during which time it was almost impossible to move her bowels. She at one time took seven compound cathartic pills, followed by large doses of salts and oil, with little or no effect. Enemas proved likewise inefficient. On one occasion I resorted to abdominal massage. She was too tender to endure manipulation over the right half of the abdomen, and the best that could be done was a deep massage of the left half. It was during this treatment that I discovered that a certain manner of pressing on the left side induced a typical sharp pain in the right iliac region. I concluded that this procedure produced cecal distension similar to the condition existing when postoperative gas pains occur.

Since that time I have been accustomed to mention to my students in lectures on the cecum and appendix the effect of distension and motion of these organs when inflamed. In my practice I have applied the test to a large number of cases, but have been slow to appreciate the test as a distinct and reliable procedure.

The general principles of the test are not new. The pain often produced at McBurney's point by pressure over the region of the gall bladder has by some been believed to be due to compression of the colon. There are few surgeons who are not familiar with the sharp pain over an inflamed appendix often produced by making gradual deep pressure in any part of the abdomen and suddenly removing the hand. The pain is caused by sudden visceral readjustment on release of pressure. The cecal distension test is but an elaboration of these ideas, and there is probably no surgeon who has not at some time unconsciously used the test and elicited pain thereby.

Soon after my early observation I failed to get a response to the test in the case of a boy apparently suffering from appendicitis—a diagnosis made by another practitioner. The boy later fell into my hands with a right lumbar sinus and died two years later with tuberculous sacroiliac disease of the right sacroiliac articulation. Whenever I operated for appendicitis in the absence of this distension test, I have either failed to relieve the patients of their typical pains or found other conditions which explained their suffering. In one case was revealed a duodenal ulcer which simulated appendicitis in most differential points except the distension test. In another case a small intraligamentous cyst of the right broad ligament explained the absence of reaction to the test in what seemed an appendiceal affection. I have recently obtained a positive reaction in two fulminating cases of appendicitis, with early gangrenous perforation, which demonstrates that the pain produced by the test is not due to gaseous distension of the appendix.

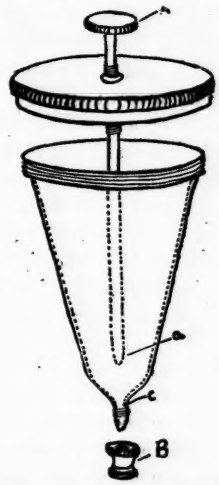
DESCRIPTION BY A CONTEMPORARY OBSERVER.

I had partly written this paper, intending to present it at the next session of the American Medical Association, and had sent in another title for a paper to be read at this meeting of the North Texas Medical Association. On Nov. 5, 1907, I received my weekly number of the *Centralblatt für Chirurgie,* published October 26, in Breslau. In this number was a brief paper by Rovsing of Copenhagen, entitled *"Indirectes Hervorrufen des typichen Schmerzes an McBurney's Punkt"* ("Indirect Production of Typical Pain at McBurney's Point"). I immediately wrote the secretary of this association and announced the title of this paper to insure the earliest presentation of my ideas. To speak of my work as original, after the publication of Rovsing's article,[1] would be embarrassing were there not so many men present who have known of my work and to whom I have for the past few years explained the principles of the test. Rovsing and I have been working on the same idea. He has had a better operative opportunity to observe the phenomena than have I. My conceptions of the principles underlying the test and the methods of applying it, however, seem to me more exact and practical.

NEW CHLOROFORM DROPPER.

ALBERT J. MAYER, M.D.
Junior Visiting Surgeon, Touro Infirmary,.
NEW ORLEANS.

The chloroform dropper here illustrated has given me much satisfaction. It is a metal container, non-leakable and unbreakable. It is always ready for use by simply turning the screw A slightly to the right. The flow of



chloroform or ether can be regulated in this manner so as to yield from two drops per minute to a steady flow, if so desired. The cap B prevents leakage when the bottle is being refilled. The needle valve a fits into the opening c. The whole bottle can be used with one hand, leaving the other hand free. There is no danger of the stopper falling out and deluging the patient's face with a shower of chloroform or ether.

1. A translation of Rovsing's article was presented with this paper when read, but as a review has already appeared in THE JOURNAL, Nov. 30, 1907, p. 1882, it is not here reproduced.—ED.

Surgery and Internal Medicine.—Moore, in *Colorado Medicine,* calls attention to the fact that the practice of surgery has become so attractive to graduates in medicine during the last two decades that their best energies are given to its study, with the results that in many cases internal medicine is neglected, and that medical colleges are graduating "specialists" instead of physicians in the true sense of the term. Many young men leave college, he declares, with the fixed idea that as surgeons they are fully equipped as internists. This idea, however, is generally eliminated by experience.

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[*For other information see second page following reading matter.*]

SATURDAY, FEBRUARY 22, 1908.

CONGESTED POPULATIONS.

Many citizens, and a number of important societies in New York City, have joined its health and charities departments in calling attention to the evils coincident on the overcrowded condition of some of its districts. A committee on congestion of population has been formed, and a campaign is preparing similar to that which the Charity Organization Society has been waging against tuberculosis. The public at large will thus learn, by means of maps, charts, models, moving pictures and lectures, and the educative facilities which the lay press so willingly affords, of the evils which densely-populated districts must suffer, and of the consequent baneful results on the community in general. All great cities should surely profit by a consideration of the proposed demonstrations, for the municipal conditions which have occasioned them obtain generally, though in perhaps lesser degree, throughout these United States.

A paper by Dr. W. H. Guilfoy[1] on "The Death Rate of the City of New York as Affected by the Cosmopolitan Character of Its Population," which he read at the annual meeting of the American Public Health Association in October, 1907, will certainly serve as a basis for important and fruitful discussion. The difficulties with which the metropolitan sanitary authorities have to contend may be gauged by Dr. Guilfoy's observation that in a community of four and a quarter millions there are 1,750,000 foreign-born people who are especially likely to affect the general death rate, because the languages, customs and habits of fully four-fifths "are so dissimilar in all respects to the requisites established by the authorities for the making of a sanitary member of the body politic."

It is little wonder, then, that although the death rate in New York City has been steadily decreasing for nearly a score of years, it has during the last few years "marked time" in its progress toward an expected lower level.

Some of the reasons why this death rate has not been progressively lowered in recent years have no relation to immigration. For instance, the native American negro section, the "San Juan Hill" in New York City, invariably exerts a cumulative effect on the mortality rates. This region is inhabited almost entirely by negroes, and the death rate among them is 38.56 per 1,000 —that of the city at large being 18.35. The tuberculosis death rate is here three and one-half times the average for the entire city; only the Chinese quarter exceeds it in this respect.

When we consider that throughout the registration area in the United States every other adult negro is found to have died from tuberculosis, and also that each advanced consumptive emits daily his billions of bacteria, we must apprehend an infection which must make its influence felt throughout all strata of the population. This danger of infection is an ever-present menace to the health of the city, and it is the merest justice to compliment the metropolitan health authorities on the amazing fact that the tuberculosis death rate during the last twenty years has decreased nearly 50 per cent.

In New York City the "Russian-Polish block" is probably the most densely populated region in the whole world; not in Pekin, nor Bombay nor any other old-world city is there such congestion. Nevertheless the death rate here is low, for the Jewish people, who almost exclusively inhabit it, have a tremendous racial vitality. Though not necessarily abstinent, they are temperate in the use of alcoholic stimulants. They have no drink problem, such as almost every other section of our American people must grapple with. They are also most careful regarding the food stuffs, particularly the meats, which they ingest. And these are good reasons, among others, why the Jewish race is less prone than many others to tuberculosis. Not only this, but the Jewish race, during the forty centuries of its existence, must have acquired a comparative immunity to tuberculosis, in contradistinction to the negro and the Indian, who in comparatively recent times have had to cope with this disease, and who succumb to it in such pitifully great numbers.

The whole of the evil does not lie precisely in overcrowding. In a great city which is well sewered, and in which the huge tenements are built according to sanitary principles, many more people can live in health than was formerly the case in much smaller communities. Cities in which health and tenement-house departments are effectively administered are to-day not necessarily "man-consuming." The great cities, indeed, are coming to vie with rural districts in their low death rates. The more insalubrious regions seem now to be the smaller cities and towns where modern sanitation has not yet attained its fullest development. For example, in New York State the metropolis has a birth rate of 30.7, as compared with a birth rate of 22.3 in other cities above 100,000; its death rate of 18.3 compares very well, therefore, with the death rate of 15.1 in these other cities. And cities ranging in population between 50,000 and 100,000 also compare unfavorably with New York City, for with a birth rate of 26.2 they have a death rate of 18.2.

1. Medical Record, Jan. 25, 1908, p. 132.

EUGENICS.

It is rather interesting to find that the question of raising a better breed of men and women should have come up for discussion, in its most recent phase, not before a medical or anthropologic society, but before the American Breeders' Association. The breeding of cattle is a money question. Therefore very definite information has been sought with regard to it, and very important and still more promising results have been secured by the application of certain principles derived from the knowledge attained by many forms of investigation and the collection of statistics. The subject of the production of better men and women was brought before the American Breeders' Association by Professor Alexander Graham Bell, the inventor of the telephone, who for many years has been interested in certain social questions, especially those relating to the condition of the deaf and the result on the next generation of the consanguinity of parents as regards the production of deaf and blind children. We called attention a little over a year ago[1] to the fact that Professor Bell had been in charge of the collection of the statistics for the last census with regard to this interesting subject and that his conclusions from a large mass of carefully collated figures were rather startling. He found that between three and four times as many deaf and blind children had been born of the marriages of first-cousin parents than from the ordinary run of unrelated married people.

In his talk on eugenics, the science of the improvement of the races, Professor Bell called particular attention to the fact that the improvement of the human race depends largely on two important factors—heredity and environment. In the American Breeders' Association the question of heredity is most important. Bell argued that as human beings possess intelligence and a desire that their offspring may be fully up to the average of the race in every particular, it is only knowledge of the conditions required for the production of better children that is needed in order to bring about this eminently desirable result. He is ready to confess that our statistics up to the present are utterly inadequate to enable us to draw any definite conclusions in the matter. The figures that we have seem to show that about 3 per cent. of the defectives among the population of the United States are the offspring of consanguineous unions—to take only one and a very simple phase of the problem of eugenics, but this is no proof that marital consanguinity is the direct cause of the defects, for we have no statistics that show the proportion of the whole population who are the offspring of consanguineous marriages.

In a word, Professor Bell makes an appeal for the collection of statistics by trained men who are interested and who have the opportunity to secure the definite detailed information so desirable in these matters. While no direct appeal is made, the expression of such a desire would seem to be aimed more at the medical profession than at any other class of people in the community. Physicians are certainly in a position to secure much valuable information of this kind. As a body we are deeply interested in the improvement of the health, mental as well as physical, of the human race (and, of course, also of the happiness of the greatest possible number). It has been the constant endeavor of the profession in recent years to decrease the death rate and to increase the length of life. Not a few have been suspicious that the keeping alive of many individuals who, in the ordinary process of natural selection, would have disappeared before their productive era began, has been a source of injury rather than of benefit to the race, though it has brought about a great increase in the population. We are securing survivals to a much greater degree than before, and now it becomes a duty to secure, so far as it is possible, the origin of members of the race who will be worthy of survival. After all, the most important problem in evolution is not so much the survival of the fittest as the origin of the fittest.

This new practical science of eugenics, then, which in the last decade has begun to attract so much attention from sociologists and anthropologists, deserves to have the benefit of some of the best thinking and careful observation and collection of statistics on the part of the more intelligent members of the medical profession. The problem that Professor Graham Bell set before the American Breeders' Association of the influence of consanguinity in the production of defectives would seem to be a simple and easy avenue of introduction to so important a work. We commend its consideration as likely to produce the next important step in the amelioration of conditions of life and in the securing of such improvement in human health as will greatly add to human happiness and, above all, decrease to a noteworthy degree the sum of human suffering.

1. Report of United States Census Bureau; editorial in THE JOURNAL, Sept. 1, 1906, p. 689.

THE PREVENTION OF SERUM INTOXICATION IN ANAPHYLAXIS.

The investigators into the mechanism of experimental anaphylaxis naturally had their attention turned to the discovery of means whereby its effects might be prevented. Thus Rosenau and Anderson in Washington tested the effects on the toxic principle in the serum of a large number of chemical agents, but without any positive results. The same conclusion in regard to chemicals was reached by Besredka[1] also, who is studying methods whereby the effects of anaphylaxis may be prevented. He shows, however, that the toxic principle in the serum that kills sensitized guinea-pigs may be attenuated and even destroyed by heat, the higher the temperature the greater the destruction. Heat has the same effect also on the sensitizing principle in the serum. Both the toxic and the sensitizing properties are

1. Ann. de l'Inst. Pasteur, 1907, xxi, p. 950.

reduced to a minimum in serum heated to 100 C., while repeated exposure of the serum to 56 or 60 C. diminishes its toxicity very markedly. Whether antitoxic serum may be heated in this manner sufficiently to destroy the toxic principle, but without too great injury to the antitoxin is doubtful indeed.

Besredka finds, too, that in sensitized guinea-pigs all the usual phenomena of hypersusceptibility may be prevented by ether narcosis. If the second dose of serum is injected intracerebrally, as the muscles undergo relaxation from the ether the toxic effects usually produced fail to appear and after sleeping about half an hour the animal awakens without having presented any of the visible effects of anaphylaxis. If an animal so treated is given a new dose on the following day no reaction results—it is immunized. Neither morphin nor extract of opium has the power to prevent the symptoms of anaphylaxis in sensitized guinea-pigs. Whether or not the prompt induction of ether narcosis in human beings that appear to be passing into the stage of active intoxication following injection of antidiphtheric or other serum would have any effect on the course of the intoxication might well be put to test if opportunity to do so presents itself.

No doubt special efforts are being made in many laboratories to devise means to deprive serum of the toxic principle that may cause such profound disturbances in susceptible individuals, and we cite the results just given as examples of what has been achieved.

INFECTIOUS DISEASES AND GALLSTONES.

The view that gallstones are formed chiefly on account of local disturbances in the gall bladder rather than because of changes in the composition of the bile as secreted by the liver, which was so ably championed (by Naunyn), has now come to be generally accepted as correct, and all the more recent studies of the etiology of gallstone formation seem to support this idea. Especially in connection with typhoid fever, gallstones have been found to result from acute inflammation of the gall bladder, and Halstead obtained a history of typhoid in one-third of his patients operated on for gallstones. Thanks to numerous careful studies of the bile in typhoid, and in cases of cholecystitis and cholelithiasis, the important rôle of the typhoid bacillus in the etiology of gallstone formation has come to be generally recognized, but the relation of other acute infectious diseases to cholelithiasis has been less considered.

In an interesting paper Dr. Helen Baldwin[1] reports a study of the bile obtained from 225 autopsies, with results which indicate that probably typhoid is by no means the only febrile disease that is likely to cause cholecystitis and subsequent formation of gallstones. In no less than seventy-two of these cases the bile was found to be abnormal; in seventeen there were evidences of an early stage of cholecystitis; fourteen contained bilirubin-calcium calculi, and forty-four contained free cholesterin, either as gallstones or granular and crystalline deposits. Among the 225 cases in this series were fifty-one in which the cause of death was some acute infectious disease, and in one-third (seventeen) of these there were characteristic changes in the bile which were not noted in patients who died of chronic disorders. The bile in these cases presented a purulent appearance, due not to leucocytes, but to great numbers of epithelial cells desquamated from the mucous membrane of the gall bladder; at the same time the bile is generally acid and contains somewhat increased quantities of cholesterin. This condition was observed in typhoid, pneumonia and other acute infectious diseases, which also are sometimes accompanied by thick, muddy bile full of desquamated epithelium and granular masses of cholesterin; pneumonia was by far the commonest cause of death in the cases in which these changes were noted in the bile. Likewise deposition of cholesterin within the cells still attached to the walls of the gall bladder occurs particularly in acute infectious diseases. On the other hand, deposits of bile pigment occur chiefly in the gall bladders of old patients with chronic diseases.

It would seem that in all acute infections, especially pneumonia, as well as typhoid, the mucous membrane of the gall bladder suffers considerably from either the infecting bacteria or their products, an actual cholecystitis often being present. Extensive desquamation of the epithelial cells results, and in case these are not freely washed out of the gall bladder they disintegrate and produce cholesterin, thus serving as a starting point for gallstone formation. It would be interesting to learn in how large a proportion of patients with gallstones a history of previous infectious disease other than typhoid can be obtained. We may call attention to the relation between appendicitis and gallstones which the surgeons speak of as being significantly frequent; surely in appendicitis, as in typhoid, the location of the liver and gall bladder on the portal system, where the bacteria of these two infections are carried, offers the best possible opportunity for biliary infection. However, the connection between the bacterial origin of gallstone formation and the great preponderance of cholelithiasis in women does not seem to be apparent.

1. Jour. Biol. Chem., 1908, iv, 213.

RAILROAD ACCIDENTS.

The *Accident Bulletin* of the Interstate Commerce Commission for July, August and September, 1907, presents a picture of death and injury which is no more creditable to the American railroads than its predecessors, since there were 1,339 killed and 21,724 injured during the three months. A table is given showing the nature and cause of 49 prominent train accidents, 31 collisions and 18 derailments, involving 141 deaths, 641 injuries and $732,709 damages. The total dam-

age to cars, engines and roadway by the three months' accidents amounts to $3,605,696. Among the causes assigned, the most frequent pertain to the behavior of the persons in charge of the traffic and include errors on the part of train dispatchers, telegraph operators, conductors and train crews as well as failure of inspectors to discover broken rails, etc. The failure is in the working of the human machine and may result either from psychic causes, as carelessness, or from physical weariness, from too long hours. In three cases the engineman was asleep, and the reason assigned in two cases was continuous duty for seventeen hours. In other cases the accident was due to failure to remember meeting place, carelessness in reading orders, failure to deliver orders or carelessness in giving, transmitting or receiving orders. For the accidents due to physical exhaustion there is an evident remedy, and it should be applied so that no employé could give as an excuse that his long hours of labor had made him unable to guard properly the interests in his charge. For the defects attributed to carelessness the remedy is not so evident, but the causes of such carelessness open a field for psychologic study with a view to determining whether or not the liability to such errors on the part of employés can be previously determined by psychologic investigation and their occurrence prevented. Is any training of the subconsciousness possible so that such persons shall automatically respond to signals and carry out orders, even if conscious supervision should fail? Such a solution of the problem may be impracticable, but it seems worth investigation.

MEDICAL ORGANIZATION AND THE PLAGUE IN SAN FRANCISCO.

Two weeks ago, in commenting on the address of Dr. Crandall, we illustrated some of the benefits that may accrue, not only to the profession, but also to the public, from energetic and well-directed use of the weapon placed in our hands by organization. San Francisco is now affording another illustration, though in a somewhat different sphere, of the same public benefits. It is obviously of the utmost importance that every place that is, or is likely to become, a center of plague infection should be rendered rat proof so far as possible. The organization of the profession in San Francisco, we learn, has enabled it to make a marked advance in that direction. The officers of the Medical Society of the State of California have taken up the matter, appealing directly to the various interests and classes of people, and by this means already nearly every branch of industry in the city has been reached, through special meetings going on throughout the entire day and evening. On February 11 addresses were given at a meeting of the school teachers of the city which are said to have produced results the next day. Many prominent business men are devoting a large amount of time to the work. Each industrial line is asked to select a committee to work under and to report to the society's executive committee. The manner in which the work of exterminating rats and of rendering the city untenable for them has been taken up is encouraging. An appeal through the pocket is always effective, and there are always many who can be reached through no other channel. The dread of quarantine is also undoubtedly a powerful lever. These motives are materially aided, however, by the moral and intellectual influence of general appeal and instruction on a large scale. The manner in which the medical profession of San Francisco has proved equal to this emergency is highly creditable. In this instance the matter is of more than local interest, for the continuance of San Francisco as a plague center would eventually without doubt become a menace to the entire country.

ANOTHER "NON-MEDICAL" THERAPY.

We do not remember to have noticed before this time a new school of "non-medical" therapy, the advertisement of which, clipped from January *Success*, a correspondent forwards to us. It is called mechanotherapy, and offers an income of from $3,000 to $5,000 a year, on a six months' course, "equal to college course," and it can be taught by mail. It is asserted to be "more comprehensive than osteopathy" and to be "endorsed by physicians;" also we regret to have to state that the new "college" hails from Chicago. Also, of course, the mechanotherapist is to be dubbed a "doctor." Its principal advantages, judging from the advertisement, appear to be that it is "easy to learn" and offers "vast opportunities for social and financial betterment"—for its practitioners, of course. We are not informed as to where the patient comes in. But that is doubtless a mere detail of altogether secondary importance.

POISONING BY PICRIC ACID.

Picric acid has proved such a satisfactory dressing for burns and scalds that it has come to be widely used of late years for that purpose. Internally, the picrates may be used in doses of from 9 to 15 grains a day (Erb), and the possibility of the absorption from a burned surface of enough to produce toxic symptoms is usually disregarded. That this may occur, however, is shown by a case recently reported by Meurice.[1] A girl of 14 had sustained a second degree burn, the diameter of the lesion being not more than an inch and a half, and within twenty hours of the application of a solution of picric acid she developed headache, vertigo, nausea and vomiting. Picric acid was recovered from the urine, which was brownish in color, and contained methemoglobin and abundant albumin. The symptoms gradually cleared up after the removal of the dressing. It is evident that the possibility of an idiosyncrasy for picric acid should be borne in mind.

THE NEW CHINESE MEDICAL QUALIFICATIONS.

While some of our medical college professors are deploring the length of time now required to obtain a medical qualification, it is well to note what is the ideal of the awakening Orientals on this subject. In the specifications for the course of study in the projected medical college at Peking, according to U. S. Consul W. T.

1. Annales de la Société de médecine de Gand, 1907, p. 166.

Gracey, three years are to be given to traditional Chinese practice, followed by six years of modern western medical studies. At the end of these nine years, if the candidate passes his examinations, which are specified to be thorough, three years' more of study and trial practice will be required before he is qualified—all this in addition to a certain required literary grade. Evidently Chinese prejudice will not permit the entire abandonment of the old ways and there will therefore be much to unlearn during the six years of scientific western training, but a discriminating knowledge of the time-honored methods—superstitious and trivial as they may be—will hardly be a handicap to the Chinese physician, and it is easy to conceive how, in many ways, it may be an aid to his professional success. The length of time and high requirements for qualification will doubtless prevent any superfluity of members of the new type of Chinese physician.

Medical News

CALIFORNIA.

Fire in Hospital.—At a fire which occurred in the laundry of the French Hospital, San Francisco, January 6, three employés lost their lives, but all patients were saved by the bravery of the nurses and internes, who remained at their posts of duty. Damage of $50.000 was caused by the fire.

Smallpox.—San Mateo has erected tents in the corporation yard for the care of the five smallpox patients in the town.——In and near Fresno 18 cases of smallpox have recently occurred.——The board of health of San José reports that the smallpox situation is well in hand.——Smallpox is reported near Woodville and Poplar.

Hospital Notes.—The new Red Cross Guild Hospital, San Mateo, was dedicated with impressive ceremonies, January 23. The hospital contains an operating room, five rooms for patients, the necessary living rooms for nurses, etc.——To put the Rideout home, Marysville, in proper shape for the needs of the Memorial Hospital $5,000 is required. Of this sum the physicians of the city have subscribed $1,000.——Dr. James J. Hogan is about to erect a hospital building in Vallejo, to cost about $30,000, and to accommodate about 30 patients.

December Deaths.—During December 3,484 deaths were reported, which includes several hundred which occurred in November and before, but were included with December returns. Chief among death causes were: Tuberculosis, 503; diseases of the circulatory system, 483; pneumonia, 375; diseases of the nervous system, 324; violence (including suicide), 308; diarrhea and enteritis, 206; cancer, 186; nephritis, 176; typhoid fever, 80; diphtheria, 50; influenza, 18; scarlet fever, 12; bubonic plague, 9; malarial fever, measles and whooping cough, each 6; and smallpox, 1.

Personal.—Dr. R. S. Lanternman has resigned as coroner of Los Angeles County.——Dr. Fred T. Bicknell has been elected president; Dr. Everett R. Smith, vice-president; Dr. William W. Hitchcock, treasurer, and Dr. Walter Lindley, secretary, of the California Hospital, Los Angeles.——Dr. George S. Hartness has been appointed health officer of Stockton.——Dr. and Mrs. Albert Abrams, San Francisco, have returned from Europe.——Dr. Wood C. Baker has been elected president, and Dr. Franklin M. Seibert, secretary, of the San Mateo board of health.——Dr. Gayle G. Moseley, Redlands, has been elected president of "The Settlement," an institution for the care of poor consumptives.

Ill and Injured.—Dr. John H. Soothill, Anderson, has been seriously ill with pneumonia.——Dr. Henry Gibbons, Jr., San Francisco, dean of Cooper Medical College, was seriously injured in a collision between his automobile and a street car, February 4. Fortunately no bones were broken, but he suffered from shock and numerous contusions of the head.——Dr. Hubert N. Rowell, Berkeley, who has been seriously ill with septicemia, due to an operation wound, is convalescent.——Dr. Herman J. Schlageter, San Francisco, member of the board of health, was seriously injured February 8, by being run down by a street car, and is now under treatment at the Lane Hospital.——Dr. D. C. Strong, San Bernardino, was operated on for appendicitis February 4, and is doing well.

Illegal Practitioners Fined.—Lee Wai, a Chinese herbalist of San José, charged with practicing medicine without a license, is said to have pleaded guilty January 25 and to have been fined $100, which was promptly paid.——Charles Steele, Los Angeles, claiming to be an "East Indian doctor," charged with practicing medicine without a license, is said to have pleaded guilty February 3, and to have been fined $100 and to have paid the fine.——John Baker, Los Angeles, charged with practicing optometry without a state license, is said to have been found guilty and to have been fined $50 February 3.——Tom Shee Bin, a Chinese "herb doctor" of Los Angeles, charged with practicing medicine without a state license, is said to have been found guilty February 1, and to have been fined $180. He filed a notice of appeal.

GEORGIA.

Society Meetings.—At the annual meeting of the Clarke County Medical Society, held in Athens, January 3, the following officers were elected: President, Dr. Isham H. Goss, Athens; vice-president, Dr. W. D. Carter, Wintersville; secretary-treasurer, Dr. J. Peebles Proctor, Athens; censor, Dr. S. S. Smith, Athens, and delegates to the state medical association, Drs. Isham H. Goss and J. Charles McKinney, both of Athens.——At the annual meeting of the Floyd County Medical Society the following officers were elected: President, Dr. James C. Watts, Rome; vice-president, Dr. Isaac Sewell, Cave Spring; secretary, Dr. W. Littell Funkhouser, Rome; treasurer, Dr. William De Lay, Rome; censor, Dr. Robert M. Harbin, Rome, and delegate to the state medical association, Dr. Ross P. Cox, Rome.——The Habersham County Medical Society at its annual meeting, held in Mount Airy, January 4, elected the following officers: President, Dr. J. W. Crawford, Cornelia; vice-president, Dr. R. B. Lamb, Demorest, and secretary-treasurer, Dr. Oliver T. White, Mount Airy.——At the annual meeting of the Thomas County Medical Society, held in Thomasville, January 2, the following officers were elected: Dr. Henry A. Vann, Boston, president; Dr. D. Christopher Montgomery, Merrillville, vice-president, and Dr. Ferguson, Thomasville, secretary.——At the annual meeting of the Bartow County Medical Society, held in Cartersville, the following officers were elected: Dr. Robert E. Adair, Taylorsville, president; Dr. William C. Griffin, Cartersville, vice-president; Dr. Tanner Lowry, Euharlee, secretary-treasurer, and Dr. Fred V. Turk, Stilesboro, delegate to the state society.

ILLINOIS.

Money for Hospital.—By a collection in the Evanston churches February 9, about $5,000 was realized for the Evanston Hospital.

Personal.—Dr. John R. Webster, Monmouth, completed his fiftieth year of practice February 19, when he was a guest of honor at a large dinner party.——Dr. Edwin A. Weimer, Pekin, was seriously injured in a runaway accident February 10.

Hospital Notes.—The Sisters of St. Margaret have completed plans for the erection of a new hospital building at Spring Valley to cost from $15,000 to $20.000.——Plans have been made for the new brick isolation hospital for Peoria, to replace the building recently burned.——St. Francis Hospital, Evanston, during 1907, treated 275 patients, of whom 93 were charity patients, 84 part-pay patients and 98 pay patients.

Smallpox.—The schools of Lewistown have been closed on account of the presence of smallpox.——A case of smallpox was discovered February 2 in Lincoln.——Several cases of smallpox, diagnosed as chickenpox, have been discovered in Lacon. Schools, churches and places of public gatherings have been closed.——There were 60 cases of smallpox reported to the city board of health of Springfield during January; 19 houses are under quarantine, and 5 patients are being cared for at the Isolation Hospital.——South Bartonville reports 2 cases of smallpox.——Three new cases of smallpox were reported in Rockford, February 6.——The smallpox situation at Peoria is reported to be improving.——On February 16 smallpox was reported at the University of Illinois.

Chicago.

Smallpox.—Three new cases of smallpox were reported February 10; one from the South Side, one from the North Side, and one patient reported at the health office.

Milk Dealers Fined.—On February 7, 19 milk dealers were fined by Municipal Judge Sadler in sums varying from $5 to $25; of these 17 were accused of selling milk below the stand-

ard required by law, and two of keeping insanitary milk depots.

Personal.—Dr. Frank Billings and daughter sailed for the Mediterranean February 18.——Dr. Henry W. Berard was assaulted and robbed of a watch and $40 in currency January 27. ——Dr. John J. Mahoney slipped and fell on an icy pavement, near his home February 12, breaking his right leg below the knee.

INDIANA.

Hospital News.—Williams Hospital, Lebanon, was opened for inspection January 9. The hospital has been enlarged and remodeled and now contains 22 rooms. It is expected that arrangements will be made by the city council for the care of worthy charity cases by the hospital.——An order of Catholic sisters has started a hospital at Gary. Four of the houses recently completed by the steel company have been transformed into a temporary hospital, pending the building of a permanent structure. The institution has at present accommodations for 35 patients.——The Sisters of St. Joseph have asked for bids for the construction of a modern hospital at Logansport, to cost from $90,000 to $100,000.

Disease and Death.—The Bulletin of the Indiana State Board of Health for January, just issued, reports as follows in regard to disease and death in the state for the month: Influenza was the most prevalent disease. In the corresponding month last year bronchitis was the most prevalent. There was very little influenza in January, 1907. The order of prevalence of certain diseases was as follows: Influenza, pneumonia, bronchitis, tonsillitis, rheumatism, scarlet fever, measles, diphtheria, typhoid fever, pleuritis, smallpox, chickenpox, diarrhea, erysipelas, intermittent and remittent fever, whooping cough, inflammation of the bowels, dysentery, typho-malarial fever, puerperal fever, cerebrospinal meningitis, cholera morbus, cholera infantum.——The total number of deaths was 3,200, equivalent to an annual death rate per 1,000 of 14. In the corresponding month last year there were 2,938 deaths, a death rate of 13. Of the total number of deaths, 374, or 12.4 per cent., were under one year of age, and 961, or 31.8 per cent., were 65 years old and over. Consumption was as active as usual, causing 391 deaths, of which 333 were of the pulmonary type. In the corresponding month last year there were 349 deaths from consumption. Typhoid fever caused 51 deaths; diphtheria, 30; scarlet fever, 9; measles, 7; whooping cough, 11; pneumonia, 462; diarrheal diseases, 30; cerebrospinal meningitis, 6; influenza, 176; puerperal fever, 12; cancer, 113, and violence, 195. Although smallpox prevailed extensively, there were no deaths caused by it.

IOWA.

Tuberculosis Hospital Opened.—The State Hospital for Tuberculosis at Iowa City is completed and almost ready for occupancy. Patients who are financially able are expected to pay a small sum for board and treatment. Those unable to pay will be treated free of cost, the charge being borne by their respective counties.

Elections.—At the annual meeting of the Dubuque County Medical Association, held January 14, the following officers were elected: President, Dr. James Alderson; vice-presidents, Drs. Albert H. Blocklinger and Franklin Reyner, Epworth; secretary, Dr. H. G. Langworthy; treasurer, Dr. Lily Kinnier; delegate to the state society, Dr. Alanson M. Pond; censors, Drs. Isaac S. Bigelow, John C. Hancock, Frank W. Wieland, and librarian, Dr. John S. Lewis, all of Dubuque.——At the annual meeting of the Hardin County Medical Society, held in Iowa Falls, January 13, the following officers were elected: President, Dr. William M. Morton, Iowa Falls; vice-president, Dr. William E. Marsh, Eldora; secretary, Dr. William E. Whitney, Eldora, and treasurer, Dr. James W. Thornton, Ackley.

KANSAS.

Society Meetings.—At the annual meeting of the Sumner County Medical Society, held in Wellington, January 9, the following officers were elected: President, Dr. John J. Sippey, Belle Plaine; vice-president, Dr. Walton H. Rea, Oxford; secretary-treasurer, Dr. Thomas H. Jamieson, Wellington (re-elected), and censor, Dr. Frank G. Emerson, Wellington (re-elected). The society passed resolutions recommending the governor of the state to appoint Dr. G. L. Millington, Wellington, a member of the State Board of Medical Examiners, endorsing him as a very able representative of the homeopathic school and fully competent in every way to discharge the duties of the office. At the annual banquet which followed the meeting, Dr. Francis M. Owens, Argonia, president of the society, officiated as toastmaster.——At the annual meeting of the Montgomery County Medical Association, held in Independence, the following officers were elected: Dr. Howard M. Casebeer, Independence, president; Drs. George M. Seacat, Cherryvale; Ira B. Chadwick, Tyro; Gardner J. Bigelow, Caney, and Mary S. Martin, Coffeyville, vice-presidents; Dr. Walter C. Chaney, Independence, secretary; Dr. William E. Youngs, Cherryvale, treasurer, and Dr. Enoch C. Wickersham, Independence, censor.——At the annual meeting of the Barton County Medical Society, held in Elmwood, December 22, Dr. Edward N. Atkin, Olmitz, was elected president; Dr. J. Sutherland, Great Bend, vice-president; Dr. Edward C. Button, secretary, and Dr. Reginald H. Meade, Great Bend, delegate to the state society. ——At the annual meeting of the Reno County Medical Society, held in Hutchinson, December 27, Dr. Cornelius A. Mann, Hutchinson, was elected president; Dr. Alexander H. Bressler, Nickerson, vice-president; Dr. William F. Schoor, Hutchinson, secretary (re-elected); Dr. George R. Gage, Hutchinson, treasurer, and Dr. Hunter J. Duvall, Hutchinson, censor (re-elected). ——At the annual meeting of the Neosho County Medical Society, held in Chanute, December 27, the following officers were elected: President, Dr. James B. Edwards; vice-president, Dr. Andrew M. Davis; secretary, Dr. Ralph A. Light; treasurer, Dr. John C. Lardner, all of Chanute; censor, Dr. Ralph C. Henderson, Erie, and delegates to state society, Drs. Ralph A. Light and James B. Edwards, both of Chanute.

MAINE.

Hospital Notes.—The new wing of the Eastern Maine Insane Hospital, Bangor, is near completion, and the tuberculosis building is expected to be ready early in the spring.——The Old Town Hospital Company has been incorporated to erect and operate a hospital in Old Town.

Elections.—At the annual meeting of the Maine Academy of Medicine and Science, held in Lewiston, January 7, the following officers were elected: President, Dr. Charles E. Williams, Auburn; vice-presidents, Prof. A. W. Anthony and Dr. H. E. E. Stevens, Lewiston, and assistant secretary, Dr. Edwin F. Pierce, Lewiston.——At the annual meeting of the York County Medical Society, held January 9, the following officers were elected: President, Dr. Charles W. Pillsbury, Saco; vice-presidents, Drs. Roland S. Gove, Sanford, and Clarence E. Thompson, Saco; Dr. Clarence F. Kendall, Biddeford, secretary; Dr. Harry L. Prescott, Kennebunkport, treasurer, and Dr. Edward C. Cook, Ogunquit; Drs. Harry A. Weymouth and Jesse D. Haley, Saco, censors.——At the annual meeting of the Penobscot County Medical Society, held in Bangor, the following officers were elected: President, Dr. Harry Butler, Bangor; vice-presidents, Drs. Stuart E. Phelps, N. Sullivan and William P. McNally, Bangor; secretary, Dr. Bertram L. Bryant, Bangor, and treasurer, Dr. Harold H. Crane, Bangor. ——The Maine Association for the Study and Prevention of Tuberculosis has been organized in Portland, with Drs. Seth C. Gordon, Irving E. Kimball, John W. Whidden and Stephen H. S. Weeks as the medical incorporators.

MARYLAND.

Alumni to Meet.—The annual meeting and dinner of the University of Maryland General Alumni Association will be held in Baltimore, February 27.

Personal.—Dr. Isaac R. Trimble, Baltimore, is reported to be seriously ill in St. Joseph's Hospital with septicemia, following an operation.——Dr. William E. Wiegand, Baltimore, has gone to Cuba for a month.——Dr. Charles M. Ellis has been re-elected president of the Elkton National Bank.

Accidents.—In Baltimore during 1907 there were 3,737 accidents reported, 361 of which proved fatal; 76 were suicides; 101 attempted suicides, and 534 sudden deaths; more than 700 had falls; 52 were automobile accidents; 129 cases of dog-bite; 16 baseball injuries; 3 heat prostrations, and 28 gas asphyxiations.

Hospital Notes.—The South Baltimore Eye, Ear and Nose Hospital is to erect a hospital building at 1211 Light Street. ——The Locust Point Social and Improvement Association urges the establishment of an emergency hospital in the vicinity of Locust Point, where, on account of the numerous factories, railway tracks, etc., accidents frequently occur.

MASSACHUSETTS.

Bequest.—By the will of the late Lucy Emily Carr, Somerville, $5,000 is bequeathed to the Somerville Hospital.

Scarlet Fever.—Wakefield reports 6 cases of scarlet fever. During the first 19 days of January 64 cases of scarlet fever

were reported in Worcester and the Isolation Hospital is filled to overflowing.

Association of Boards of Health.—The annual meeting of the Massachusetts Association of Boards of Health was held in Boston, January 30. The program consisted of papers on the prevalence and the proper attitude of boards of health toward venereal diseases, and a committee was appointed to consider the matter of diminishing the spread of syphilis and gonorrhea. The following officers were re-elected: Dr. Henry P. Walcott, Cambridge, president; Drs. Samuel H. Durgin, Boston, and Charles V. Chapin, Providence, R. I., vice-presidents, and Dr. James C. Coffey, secretary.

Compulsory Vaccination.—A bill has been introduced into the legislature making it unlawful for any board of health, board of education or any other public board to compel vaccination of any child or person of any age, or make vaccination a condition precedent to the attendance at any public or private school either as pupil or teacher. This bill will be opposed by the legislative committee of the Massachusetts Medical Society.

Council Meeting.—The winter meeting of the council of the Massachusetts Medical Society was held in Boston, February 5, Dr. George W. Gay, Boston, president, in the chair. The report of the committee to consider the providing of legal counsel for members of the society accused of malpractice was accepted and will come up for adoption by the society at the next regular meeting in June. The committee on state and national legislation reported that it was inexpedient to form a North Atlantic Branch of the American Medical Association. The same committee reported that it had enlisted the cooperation of the Massachusetts Bar Association in the matter of expert testimony. A bill had been introduced in the Massachusetts legislature providing that the court may appoint from a list of accredited experts, nominated by medical organizations, the experts in a given case. This does not alter the rights of either side to engage additional experts of its own. It was voted to recommend to the governor the reappointment of Dr. Edwin B. Harvey, Boston, as secretary of the State Board of Medical Examiners. Dr. Stedman advocated that the Boston insane hospitals be placed under the charge of the state and it was voted to recommend this action to the legislature. The committee on medical diplomas reported a list of colleges suitable for recognition by the state society, and whose diplomas should be accepted as required by the by-laws on admission of candidates.

Personal.—Dr. Patrick E. Hurley, Holyoke, has been elected city physician.——Dr. William L. Richardson, Boston, has been appointed a trustee of the Perkins Institution and Massachusetts School for the Blind.——The board of health of Fitchburg was organized February 5 with Dr. Alfred O. Hitchcock, chairman, and Dr. Atherton P. Mason, bacteriologist.——The State Mutual Life Insurance Company, Worcester, has elected Dr. Thomas H. Gage, consulting medical director; Dr. Albert Wood, medical director, and Dr. Homer Gage, associate medical director.——Dr. Amasa E. Paine has been re-elected vice-president, and Drs. Samuel J. Gruver, Jesse H. Averill and Arthur L. Beals, members of the executive committee of the Brockton Hospital.——Dr. Hosea M. Quimby, superintendent of the Worcester Insane Hospital for 18 years, has been granted a long leave of absence and will spend the remainder of the winter in southern California.——Dr. Emile Poirier has been appointed a member of the municipal advisory board of Salem.——Dr. Charles E. Inches, Boston, will spend the balance of the winter in Paris.——The mayor of Quincy has appointed Dr. William G. Curtis inspector of milk.——Dr. Benjamin R. Symonds has returned to Salem after a two months' vacation.

MICHIGAN.

Personal.—Dr. Mortimer Willson has been re-elected president of the Port Huron Hospital and Home Association.——Dr. Murdock M. Kerr, Laurium, has been appointed examining surgeon for the Calumet, Houghton and Sault Ste. Marie companies of the Michigan National Guard.

New Hospital.—The Van Dusen Hospital addition now almost completed, will, it is said, make that the finest hospital building in the state. It is a part of the Michigan Hospital for the Insane, Kalamazoo, and will be used as a receiving ward for female patients. The building will be used as a receiving ward for female patients. The building will accommodate 100 patients and the necessary attendants.

Hospital Notes.—To end the evils arising from the so-called secret lying-in hospitals in Detroit, Dr. J. Henry Carstens proposes the establishment of a general municipal hospital with a lying-in section.——During 1907, 297 patients were treated at the Port Huron Hospital, 187 of whom were private-room, and 110 ward patients. In 1906, 241 patients were cared for, showing a gain for the year of 56 or about 23 per cent. During the year 17 deaths occurred.——The late Charles Baer, Port Huron, made a deathbed bequest of $2,000 to the Port Huron Hospital, the interest of which will be turned into the Free Bed Fund.

MISSISSIPPI.

State Hospitals.—The new hospital and dormitory buildings for the East Mississippi Insane Hospital, Meridian, which will accommodate more than 200 patients, are almost ready for occupancy.——The latest reports of the Mississippi Insane Hospital, Jackson, show that there are 1,300 patients under treatment.——The establishment of a state charity hospital at some central location in Mississippi, as recommended by the Mississippi Medical Association, will be brought to the attention of the legislature at this session, and it is hoped to secure the establishment of this hospital at Jackson.

Society Meetings.—At the annual meeting of the Warren County Medical Society, held in Vicksburg, December 11, the following officers were elected: Dr. George Y. Hicks, president; Dr. Edgar F. Crowther, vice-president; Dr. Sydney Johnston, secretary; Dr. Vincent Bonelli, treasurer; Dr. Hume H. Haralson, delegate to the state society, and Dr. Ewing F. Howard, censor, all of Vicksburg.——At the annual meeting of the Tri-County (Copiah, Pike and Lincoln) Medical Society, held in Brookhaven, December 10, the following officers were elected: Dr. James A. Rowan, Wesson, president; Drs. C. H. Rice, Summit; John T. Butler, Brookhaven, and Joseph M. Cashings, Hazlehurst, vice-presidents, and Dr. Dudley W. Jones, Fernwood, secretary-treasurer. The society placed itself on record as favoring a tuberculosis sanitarium in connection with the proposed state hospital.——At the annual election of the Perry-Greene County Medical Society, held December 16 at Hattiesburg, the following officers were elected: Dr. Joseph J. Stevens, president; Dr. Louis H. Howard, vice-president; Dr. S. Lewis Knight, secretary-treasurer; Dr. W. R. Thomas, censor, all of Hattiesburg, and Dr. Prentis A. Carter, New Augusta, delegate to the state association.——At the annual meeting of the Union County Medical Society, held in New Albany, the following officers were elected: President, Dr. W. A. Whitten, Keownville; vice-president, Dr. J. H. Windham; secretary-treasurer, Dr. Samuel E. Eason, New Albany, and censor, Dr. G. Fred Cullens, Wallerville.

NEW JERSEY.

Atlantic City Hospital Benefited.—A variety show by the women of Atlantic City several weeks ago netted $1,050 to the City Hospital to fit up the new buildings.

Personal.—Dr. Sylvan G. Bushey of Camden was stricken blind as a result of influenza February 12. It will probably be some time before he regains his sight.——Dr. Harry Jarrett, Camden, is reported to be critically ill with pneumonia.

Communicable Diseases.—The epidemic of diphtheria at the Rahway Reformatory is said to be checked. There have been 230 cases, but no deaths.——The churches and schools of Dorchester and Leesburg, which have been closed on account of diphtheria, will probably reopen this week.

Antivivisection.—At a meeting of the State Humane Society, in Newark, February 7, a bill was introduced and approved to prevent the indiscriminate vivisection of animals for the sake of science. The society desires to have it known that its members are not opposed to vivisection entirely, but believe that certain restrictions should be instituted to save animals pain or suffering. The bill would also make it unlawful for vivisection to be performed for the purpose of discovering something that has already been proved.

NEW YORK.

Smallpox.—Within thirty-six hours 4 cases of smallpox developed in Newburgh. One of the victims is principal of a school which has 800 pupils, and the board of health has ordered the school closed.——Smallpox is now prevalent in Kingston, Walden, Wappingers Falls, Fishkill and Pleasant Valley. In at least one case the exposure was from Kingston, and the health board there has been severely censured for allowing the patient to leave the town.

Typhoid in Peekskill.—Twenty-five cases of typhoid have developed in Peekskill within a week, making a total of 75 persons who are ill with the disease.——The State Board of Health is inspecting the watershed in the town of Cortland.——Men employed by New York City on the new aqueduct have been living along the streams and the state authorities are promoting a general clean-up. As no other sources of contagion

have been found, it is believed that the epidemic is due to a polluted water supply.

Money for Hospitals.—The German Hospital Society received $8,000 from the aid society of the hospital Christmas day.——The entertainment at the New Circle Theater for the benefit of the Jewish Hospital for Deformities and Joint Diseases netted $3,500 for the charity.——The late Dr. John Ordronaux, whose estate is valued at about $300,000, left $3,000 to the Temporary Home for Children at Mineola; $6,000 to the New Amsterdam Eye and Ear Hospital, New York City; $6,000 to the New York Cancer Hospital; $6,000 to the Nassau Hospital Association for the endowment of a bed; $6,000 to the Jamaica Hospital; $6,000 to the Flushing Hospital; $6,000 to the Mary Hitchcock Hospital; $5,000 to the Little Sisters of the Poor; $6,000 to the Marton Hospital, Taunton, Mass.; $3,000 to Columbia University, and $5,000 each to the destitute blind of New York City, Children's Aid Society, and the Industrial Christian Alliance of New York City.

To the Medical Profession of New York.—There are now in the New York legislature not less than three bills relating to vivisection. There is also one relating to optometry. Will you not write at once to your representatives in the legislature, both senator and assemblyman, urging opposition to these measures?

The antivivisection bills, as they are called, are the work of the Antivivisection Society, and the desire is to prohibit animal experimentation. The claim is made that all animal experimentation is unnecessary and that the various discoveries of science made possible by this method of investigation have not been productive of good to humanity. This claim is proved incorrect by a plain statement of the facts from men of education, intelligence and scientific attainment, professors in our various colleges, and scientists generally whose very names are synonymous with honor and integrity. They clearly show to any unprejudiced mind the inestimable value to humanity of the work which has been done, and is being done, along this line. The statement has been made that at present no restriction whatever is placed by law on animal experimentation, whereas the fact is that there is now a law on the statute books which restricts the work to properly equipped institutions. If there have been isolated cases of violation of this law which have gone unpunished, the blame should be placed on those authorized to secure the law's enforcement. The claim that great cruelty is inflicted on animals in these scientific experiments is denied absolutely and entirely, by those in charge of experimental work in the state of New York. There is really no reason for any enactment of a new law on this subject, and this should be made clear to the members of the legislature. The optometry bill is the old measure, and should be defeated. This bill defines the practice of optometry as the measurement of the powers of vision and the adaptation of lenses for the aid thereof, all without the use of drugs. This bill gives authority to opticians to do a work, and at the same time prohibits the employment of the means necessary to do it. It authorizes opticians to adapt lenses to eyes for defects of vision which may be due to diseases either in other parts of the body or in the eyes themselves. Such measures while improving vision for the time, may be the cause of deferring proper treatment until blindness or even death result. To determine when defects of vision are due to defects in the eyes, or to diseases, requires the ability to make a differential diagnosis, and this knowledge can only be acquired, according to the laws of the state of New York, by four years' study in a medical college. Possibly some restrictions ought to be placed on the work opticians should do, but to give them the power this bill would confer, would be to expose the people of the state to perils the members of the legislature can not have knowledge of unless we inform them. The members of the legislature are honest, sincere men, and desire to do what will be in the interest of the state. They listen with courtesy to the expressed opinions of the medical profession, and it will require conclusive evidence on the part of opticians and others to convince them that any of these bills are necessary, or even safe, if we in good faith urge disapproval of them. Will you not, therefore, at once do what you can in aiding us in defeating these measures, by writing the members of the legislature, that they may be able to act intelligently?

FRANK VAN FLEET, Chairman Committee on Legislation.

New York City.

Hospital for Deformities and Joint Diseases.—The first annual report of this institution shows that 1,212 patients sought relief and received 9,471 treatments.

Harvey Lecture.—The seventh lecture in the Harvey Society course by Prof. Otto Folin, Harvard University, at the New York Academy of Medicine, Saturday, February 22, at 8:30 p. m., is on "Problems of Chemistry in Hospital Practice."

Medical Inspection of Public Schools.—Dr. Darlington, health commissioner, in answer to Dr. Maxwell's criticism of the inspection of the public schools, declares that it is unjust and unfair. Dr. Maxwell wishes this inspection taken from the health department.

Death Rate Still Decreasing.—The death rate for the week ended February 8 was 18.92 per thousand, as against 20.33 for the same week in 1907. Pneumonia dropped to 268 deaths, as compared with 343 for the same week last year. Deaths from heart disease increased to 191 as compared with 162 last year.

Champe Andrews' Successor.—A. C. Vandiver has been elected counsel to the Medical Society of the County of New York, vice Hon. Champe Andrews, and has retired from the professional staff of the district attorney of New York County, and from his association with Judge Charles S. Whitman in the general practice of law.

City Hospital, New York.—Examination for internes to the house staff of this hospital will be held on March 27 and 28 in New York City. The City Hospital has a large general service with about 800 beds, comprising all branches of medicine, and the length of service is eighteen months. All applications for the position should be addressed to the chairman of the examination committee, Dr. Smith Ely Jelliffe, 64 West Fifty-sixth Street, New York.

Consumption Exhibit.—This exhibit at the Metropolitan Life Building has been visited by more than 100,000 people in a little over one month. Early in March it will be transferred to the Natural History Museum. Tenement-house blocks in miniature are shown and in one block in particular it is shown that 2,781 people live, and that there is not one bathtub in the entire block. Nearly 500 rooms are dark and without light or communication with outside air.

Scholarships and Fellowships.—The Rockefeller Institute for Medical Research purposes to award during the year 1908-1909 a limited number of scholarships and fellowships for work to be carried on in the laboratory of the institute in New York City in the following branches: Experimental pathology, bacteriology, medical zoology, physiology and pharmacology, physiologic and pathologic chemistry and experimental surgery. They are open to men and women, properly qualified to undertake research work; are granted for one year, and the values range from $800 to $1,200 each. It is expected that applicants for scholarships and fellowships will devote their entire time to research work. Applications accompanied by credentials should be in the hands of the secretary, Dr. L. Emmett Holt, 14 West Fifty-fifth Street, not later than April 1. The announcement of appointments will be made about May 15, the term of service beginning preferably October 1.

OKLAHOMA.

Society Meetings.—The Central Medical Association of Oklahoma met in Enid, January 14, and elected the following officers: President, Dr. John H. Barnes, Enid; vice-presidents, Drs. Antonio D. Young, Oklahoma City, and Edward D. Ebright, Carmen; secretary-treasurer, Dr. Arthur B. Cullom, Hennessey, and censor, Dr. Reuben P. Tye, Chickasha. The next annual session will be held in Oklahoma City.——At a meeting of physicians of Washington County, held in Bartlesville, January 16, the Washington County Medical Society was organized with the following officers: President, Dr. George F. Woodring, Bartlesville; vice-president, Dr. M. Grant Wyatt, Dewey; secretary, Dr. Fred Sheets, Bartlesville, and treasurer, Dr. Joseph G. Smith, Ochelata.——Physicians of McIntosh County met at Crowder City and organized the McIntosh County Medical Association with the following officers: President, Dr. George E. West, Eufaula; vice-president, Dr. Bascom J. Vance, Checotah, and secretary, Dr. Alexander B. Montgomery, Checotah.——At the annual meeting of the Carter County Medical Society, held in Ardmore, January 14, Dr. Robert S. Willard, Brock, was elected president; Dr. Ballard, Lone Grove, secretary, and Dr. Thomas S. Booth, Ardmore, delegate to the state society.——At the annual meeting of the Lincoln County Medical Association, held in Chandler, Dr. Walter G. Bisbee, Chandler, was elected president, and Dr. William H. Davis, Chandler, secretary-treasurer.—The Hughes County Medical Association was recently organized at Wetumka with Dr. Alexander M. Butts, Holden, president; Dr. Ira W. Robertson, Dustin, vice-president, and Dr. Henry A. Howell, Holdenville, secretary-treasurer.——The Atoka-Coal County Medical Society was recently organized at Atoka, to

succeed the old Twenty-third District Medical Association, with the following officers: President, Dr. W. A. Logan, Lehigh; vice-president, Dr. John B. Clark, Coalgate, and secretary-treasurer, Dr. Leonard S. Willouer, Atoka.——The Wagoner County Medical Association has been organized with the following officers: President, Dr. William E. Floyd, Coweta; secretary, Dr. George W. Ruble, Wagoner, and censors, Drs. J. M. Williams, Wagoner; Coffman, Porter and A. E. Corder, Coweta.——The Jefferson County Medical Society was organized at Waurika, January 14, with the following officers: President, Dr. D. A. Wilson, Waurika; vice-president, Dr. Joseph M. Stephens, Hastings; secretary-treasurer, Dr. Arthur R. Lewis, Ryan; censors, Drs. Clinton M. Maupin, Waurika; Derr and John W. Browning, Geary, and delegate to the state society, Dr. L. J. Cranfill, Loco.

PENNSYLVANIA.

Bequest.—A bequest of one-tenth of an estate of $40,000 is made to the Allentown Hospital by the will of the late W. B. K. Johnson.

Society Elections.—At the annual meeting of the Armstrong County Medical Society, held Dec. 10, 1907, the following officers were elected: President, Dr. Joseph D. Orr, Leechburg; vice-president, Dr. Joseph M. Steim, Kittanning; secretary, Dr. Jay B. F. Wyant, Kittanning, and treasurer, Dr. Thomas M. Allison, Kittanning.——At the annual meeting of the Berks County Medical Society, held Dec. 10, 1907, the following officers were elected: President, Dr. S. Banks Taylor; vice-presidents, Drs. Irvin H. Hartman and William W. Livingood; secretary, Dr. Ira G. Shoemaker; corresponding secretary, Dr. George W. Overholser; treasurer, Dr. Seymour T. Schmehl; librarian, Dr. Frank G. J. Runyon; curator, Dr. Harry L. Rentschler, and trustee, Dr. James R. Gerhard, all of Reading.——At the annual meeting of the Blair County Medical Society, held Dec. 26, 1907, the following officers were elected: President, Dr. Elmer E. Neff, Altoona; vice-presidents, Drs. Samuel C. Smith, Hollidaysburg, and Joseph D. Findley, Altoona; secretary, Dr. John D. Hogue, Altoona, and treasurer, Dr. William S. Ross, Altoona.——At the annual meeting of the Pittsburg College of Physicians, January 16, the following officers were elected: President, Dr. George C. Johnston; secretary, Dr. Gregg A. Dillinger, and treasurer, Dr. Ewing W. Day.——At the annual meeting of the Huntingdon County Medical Society, held January 9 in Huntingdon, the following officers were elected: President, Dr. Charles B. Bush, Orbisonia; vice-president, Dr. George W. Simpson, Millcreek; secretary and recorder, Dr. Howard C. Frontz, Huntingdon; treasurer, Dr. George G. Harman, Huntingdon, and censors, Drs. Rudolph Myers, Huntingdon; Charles Campbell and Andrew B. Brumbaugh, Huntingdon.

Philadelphia.

College of Physicians' New Home.—The contract for the erection of a new home for the College of Physicians was awarded January 28. The building will cost $300,000, and is to be erected at Twenty-second and Ludlow Streets. It will be a two-story fireproof brick and stone structure, 110x150 feet, containing a museum, lecture hall, library, laboratory and portrait gallery. It is said that the work of erection will be started at once.

Diphtheria.—One of the public schools in the northeastern portion of the city was ordered closed, February 10, by the secretary of the board of education, because several of its pupils were ill with diphtheria. The classes were dismissed and the pupils notified to return the next day, when the work of disinfecting the building should be completed.——Four students who were found in the Reformed Episcopal Theological Seminary and the family of the sexton who occupies quarters in the seminary building were quarantined by the board of health, February 12, because the son of the sexton has diphtheria.

Health Report.—The total number of deaths for the week ended February 15 was 623, an increase of 25 over the number in the previous week. The principal causes of death were: Typhoid fever, 19; scarlet fever, 5; diphtheria, 10; influenza, 6; erysipelas, 7; consumption, 79; cancer, 22; diabetes, 6; apoplexy, 10; heart disease, 68; acute respiratory diseases, 109; enteritis, 16; cirrhosis of the liver, 5; appendicitis, 6; acute nephritis, 5; Bright's disease, 50; accidents, 19; suicide, 5; premature birth, 10; congenital debility, 10; old age, 12, and marasmus, 1. There were 270 cases of contagious diseases reported, with 34 deaths, as compared with 257 cases and 33 deaths, reported in the preceding week.

Bequests.—A provisional bequest of a portion of an estate of $40,000 to St. Vincent's Maternity is contained in the will of the late Bridget Reilly.——The will of the late Alexander Crawford makes a contingent bequest to the Episcopal Hospital of $10,000. This sum is to be used to maintain a bed in memory of the testator's wife. The same will bequeaths $7,300 to the Northern Dispensary and $3,000 to the Sheltering Arms Mission.——The will of the late Adelina S. Tryon bequeaths $1,000 each to the Rush Hospital for Poor Consumptives, St. Christopher's Hospital and the Kensington Hospital for women.——A bequest of $25,000 to the Frankford Hospital to be applied to permanent improvements is contained in the will of the late Williams H. Burns.

Health Bureau Changes.—Dr. Joseph S. Neff, director of Public Health and Charities, announced the following promotions and appointments on February 12:

Bureau of Health—Dr. Seth M. Brumm appointed assistant medical inspector, vice Dr. Charles W. Karsner, resigned. Municipal Hospital—Dr. J. Earl Ash promoted from second assistant resident physician to first assistant, vice Dr. Seth M. Brumm; Dr. Edward T. Clement promoted from third assistant resident physician to second assistant; Dr. John T. Adylotte promoted from first assistant to resident physician on the non-salaried staff to third assistant on the salaried staff; Dr. J. Roy McKnight promoted from second assistant resident physician on the non-salaried staff to first assistant; Dr. Charles J. Swalm promoted from third assistant resident physician on the non-salaried staff to second assistant. Philadelphia General Hospital—Dr. Henry D. Jump appointed registrar; Dr. Herman Schwatt appointed outdoor physician for the Sixteenth and Seventeenth wards, and Philadelphia Hospital for the Insane—Dr. Charles S. Potts appointed member of the Advisory Board.

Donations and Bequests.—The board of managers of the Hospital of the University of Pennsylvania acknowledges the following donations during 1907 for the endowment of free beds and has placed appropriate tablets in the hospital acknowledging the same: Donation of $9,590 from the estate of John Joseph Alter for a free bed in memory of John Joseph and Louise Alter; donation of $5,000 from Susan D. Keim Savage for a free bed in memory of George deB. Keim; donation of $10,000 from the estate of Mary Cheves Dulles for two free beds in memory of the donor; and donation of $5,000 from William Gorman for a free bed in memory of Richard and William Lewis Wistar.——A provisional bequest from an estate valued at $150,000 is contained in the will of the late George W. Warner for the Pennsylvania Hospital for the Insane, Episcopal Hospital and the Pennsylvania Institution for the Instruction of the Blind.

Medical Schools and the U. S. Pharmacopeia.—At an informal conference, called by Prof. Joseph P. Remington, of the Philadelphia College of Pharmacy, of the teachers named below in the medical schools of this city, the following resolution was passed:

Resolved, That it is of the utmost importance for accuracy in prescribing, and in the treatment of disease, that students of medicine be instructed fully as to those portions of the United States Pharmacopeia which are of value to the practitioner, and that members of the medical profession be urged to prescribe the preparations of that publication, and, further, that this resolution be forwarded to the medical and pharmaceutical journals and to the teachers of medicine and therapeutics in the United States.

James Tyson, M.D.	James C. Wilson, M.D.
John H. Musser, M.D.	E. Q. Thornton, M.D.
John Marshall, M.D.	John V. Shoemaker, M.D.
Horatio C. Wood, Jr., M.D.	Seneca Egbert, M.D.
J. W. Holland, M.D.	M. C. Thrush, M.D.
H. A. Hare, M.D.	I. Newton Snively, M.D.

February 3, 1908.

Health Bureau's Work for December.—The report of the Division of Medical Inspection shows that the number of inspections made, excluding schools, aggregated 3,952. The inspectors ordered 715 fumigations and examined 64 cases for special diagnosis. The total number of visits made to the schools was 4,624, and 556 children were excluded from attendance. They made 132 injections of antitoxin, collected 418 cultures and performed 208 vaccinations.—The report of the division of milk inspection shows that 3,304 inspections were made, including 190,172 quarts of milk. Of this number, 984 quarts were condemned; 13 inspections were chemical and 989 were microscopic.——The report of the bacteriologic laboratory shows that 1,714 diphtheria cultures and 416 specimens of typhoid blood were examined, 973 specimens of milk and 156 specimens of sputum were also examined and 3,716,400 units of antitoxin were distributed.——The division of Vital Statistics reports 2,143 deaths and 2,600 births.

Tuberculosis.—A number of the city churches will follow the example of St. Stephen's Protestant Episcopal church in establishing tuberculosis classes under the auspices of the Pennsylvania Society for the Prevention of Tuberculosis. Other churches that will take up the work are the Centenary Meth-

odist Episcopal Church, the Protestant Episcopal Church of the Crucifixion, St. Patrick's Catholic Church, St. James Episcopal Germantown Unitarian and the Church of the Holy Trinity.——In accordance with an invitation issued by the Pennsylvania Society for the Prevention of Tuberculosis to the several labor unions of the city, a number of representatives of these unions attended a meeting of the society in the College of Physicians, February 8. It is the desire of the society to form some compact with the local labor unions to cooperate with them in obtaining sanitary conditions to prevent the spread of the disease.——Through the efforts of the members of Junior Auxiliary No. 2 of the White Haven Sanatorium Association, $410.87 was turned into the association February 7. This money is being used to build a children's department at the sanatorium.

Society Elections.—The following officers of the Medico-Legal Society of Philadelphia have been elected: President, Dr. William Ruoff; vice-presidents, Joseph Savidge, Esq., and Dr. Samuel P. Gerhard; secretary, Dr. William T. Hamilton; treasurer, Dr. George M. D. Peltz, and censors, Drs. Francis J. Kelly, William D. Robinson and James Wolfe, Esq.——At the last meeting of the Philadelphia Pediatric Society, the following officers were elected: President, Dr. J. P. Crozer Griffith; vice-presidents, Drs. Herbert B. Carpenter, J. Claxton Gittings and Charles A. Fife; treasurer, Dr. Howard Carpenter; secretary-recorder, Dr. Maurice Ostheimer.——At a meeting of the Samaritan Hospital Medical Society, January 25, the following officers were elected: President, Dr. Collier H. Martin; vice-presidents, Drs. G. Morton Illman and William A. Steel, and secretary and treasurer, Dr. Jesse A. Arnold.——At a regular meeting of the Northeast Branch of the Philadelphia County Medical Society, the following officers were elected: Chairman, Dr. William H. Morrison; clerk, Dr. Albert C. Buckley, and chairman of committee on scientific business, Dr. Elmer E. Keiser. The night meeting of this society has been changed to the third Thursday of the month.——Dr. Henry Leffmann was elected president and Dr. Benjamin F. Baer, Jr., vice-president of the Charles Dickens Fellowship at the annual meeting, February 7.

Hospital Notes.—The report of the Mount Sinai Hospital for January shows that 49 new patients were admitted. In the out-patient department 3,502 visits were paid. Of the total visits, 940 were by new patients. In the emergency ward 278 were treated, of which 35 were patrol cases. The trustees of the hospital have commissioned architects to prepare plans for a large addition. Properties north of the hospital have recently been bought and on this portion of the lot, 271x100 feet, the new wing will be built. The legislature, at its last session, appropriated $35,000 to the hospital, and efforts are being made to obtain subscriptions to double that amount, so that a four-story wing may be erected to provide a number of wards, an operating room, physicians' offices and nurses' quarters. On February 3 the Germantown Hospital purchased for $10,000 an additional plot of ground measuring 250x226 feet, on which to build an addition to that institution.——According to the monthly report of the state dispensary for the treatment of tuberculosis recently opened in this city, 170 persons applied for treatment during January.——The report of the Polyclinic Hospital for January shows that 126 patients were admitted to the institution; 1,614 new patients visited the dispensaries and 606 persons were treated in the accident department. The total number of visits made to the dispensaries aggregated 1,673.——In a general order issued by Director Clay, February 2, the Medico-Chirurgical Hospital was placed on the eligible list to receive trolley accident cases falling in the hands of the police department. The director's original order named certain hospitals to which such cases should not be conveyed by the police patrol. The names of the Polyclinic and Jefferson hospitals were added to the names of eligibles on November 27. The German, Roosevelt, Presbyterian and Mount Sinai hospitals are still under the police ban.——The report of the University Hospital for 1907 shows that the number of patients admitted was 4,089, as compared with 3,727 in 1906. The number of free patients treated reached 2,820, as compared with 2,381 for 1906. The total cost of maintenance was $206,144.34, against $205,982.28—an increase of $151.06 over the previous year, with considerably increased service.

SOUTH DAKOTA.

Personal.—Dr. Adolphe M. Giffin, Rapid City, has been appointed district surgeon for the Chicago & Northwestern Railway.——Dr. John D. Brooks, Fort Meade, sailed for Panama, December 30.

Medical Association Meetings.—The Watertown District Medical Association held its quarterly meeting in Watertown, December 19. Dr. Leslie G. Hill, Watertown, was elected president; Dr. Horace W. Sherwood, Doland, vice-president; Dr. James B. Vaughan, Castlewood, secretary-treasurer; Dr. Robert F. Campbell, Watertown, delegate to the state society, and Dr. Hervey A. Tarbell, Watertown, censor.——At the annual meeting of the Fourth District Medical Association, held in Millbank, December 14, the following officers were elected: President, Dr. De Lorme W. Robinson, Pierre; vice-president, Dr. Edward B. Taylor, Huron; secretary-treasurer, Dr. Samuel R. Wallis, Miller, and delegates to the state society, Drs. John L. Foxton, Huron, and Isaac M. Burnside, Highmore.——At the annual meeting of the Black Hills Medical Association, held in Deadwood recently, the following officers were elected: President, Dr. William G. Smith, Sturgis; vice-president, Dr. Alfred G. Allen, Deadwood; secretary, Dr. Felix E. Ashcroft, Deadwood; treasurer, Dr. Frank S. Howe, Deadwood, and censors, Drs. Adolphe M. Giffin, Rapid City, and John W. Freeman, Lead.——The Yankton District Medical Society, at its annual session, December 20, elected the following officers: President, Dr. F. Arthur Swezey, Wakonda; secretary-treasurer, Dr. Leon Beall, Irene; delegate to the state society, Dr. James Roane, Yankton, and censor, Dr. Edward T. Anderson, Platte.——At the annual meeting of the Mitchell District Medical Society, held in Mitchell, December 12, the following officers were elected: Dr. Rodell C. Warne, Mitchell, president; Dr. E. N. Wager, Bijou Hills, vice-president; Dr. Elwin F. Reamer, Mitchell, secretary; Dr. Frederick W. Freyberg, Mitchell, treasurer, and Dr. Bert Menser, Bridgewater, censor.

UTAH.

Communicable Diseases.—A dozen or more cases of smallpox have developed at Hooper.——Ogden reports 6 cases of smallpox of mild type.——Measles is reported to be very prevalent. There are more than 300 cases at Lehi, 185 at Moroni and 97 at Eureka.——Influenza is reported to be epidemic at Beaver City.——On account of the prevalence of diphtheria at Kanab and Bear River City, public gatherings of every description have been suspended.

VIRGINIA.

Fined for Non-Report.—Dr. Albert G. Franklin, Richmond, is said to have been fined $10, February 8, on the technical charge of failing to report to the health department a case of chickenpox.

New Hospital.—At a joint meeting of the hospital committees held in Bristol recently, directors for the new institution were elected, and the Kings Mountain Hospital Association was decided on as the name of the organization.

Election.—At the annual meeting of the Richmond Academy of Medicine and Surgery, Dr. Clifton M. Miller was elected president; Dr. Mark W. Peyser, secretary; Dr. W. Brownley Foster, assistant secretary; Dr. William A. Shepherd, treasurer, and Dr. Alfred L. Gray, councilor.

Richmond Deaths.—During December there were 226 deaths in Richmond, equivalent to an annual rate of 23.66 per 1,000. Chief among death causes were: Pneumonia, 43; tuberculosis, 34; organic heart diseases, 18; cerebral hemorrhage, 17; nephritis, 16, and violence (including suicide), 10.

Personal.—Drs. Cullom B. Jones, Henry R. Carter and Alfred C. Ray have been appointed members of the health board of Ashland.——Dr. Carl R. Young has succeeded Dr. William A. Strole as ambulance physician of the City Hospital, Richmond.——Dr. J. Boling Jones, Petersburg, was operated on for appendicitis at the Petersburg Hospital, January 23.——Dr. Edward E. Feild, Norfolk, has been elected a member of the executive council of the Second District Medical Society.

Tuberculosis Organization.—The state committee of the International Congress on Tuberculosis held its first meeting February 8 in Richmond. The following officers were chosen: Chairman, Dr. Charles R. Grandy, Norfolk; vice-chairman, Dr. Ernest C. Levy, Richmond, and secretary, Dr. John R. Bagby, Newport News. The chairman was empowered to appoint an executive committee to consider all matters relating to Virginia's participation in the congress. The general committee was enlarged by the election of a number of laymen, several of whom are women prominent in public work. Governor Swanson has addressed communications to the mayors of the leading cities in the state and to the heads of such institutions as have it in their power to contribute exhibits showing the progress of tuberculosis work in Virginia.

Contagious Diseases.—During December tuberculosis was reported from 71 counties; typhoid fever from 51; whooping

cough from 39; diphtheria from 25; measles from 26, and smallpox and scarlet fever each from 11.——A case of leprosy has been discovered near Yale, Sussex County. The patient is a Russian woman, who has been in America about 19 years. ——Trenholm has been placed under quarantine on account of the prevalence of smallpox.——Warrants were issued January 25 for 12 women and 4 men, who refused to be vaccinated under the general vaccination order of Roanoke.——Two cases of smallpox have been discovered among the students of the Medical College of Virginia.——Smallpox is said to be raging near Bowling Green. The courts have been suspended and the public schools closed.——The high school at Palmyra has been suspended on account of the prevalence of measles.

WASHINGTON.

Hospital Notes.—It is announced that a marine hospital is to be erected and maintained at Hoquiam.——Drs. Eugene S. Clark and Dalton, Sumas, are equipping a building in the south end of the town to be used as a hospital, pending the building of a public hospital.

Urge Pardon.—The State Board of Pardons, at its session in Walla Walla, January 20, recommended an unconditional pardon for Dr. Mary A. Latham, Spokane, convicted in the Superior Court of Spokane County on the charge of arson in 1905, and sentenced to four years' imprisonment in the penitentiary.

Personal.—Drs. Charles E. McClure, Stuart V. R. Hooker and George N. McLaughlin have been appointed school medical inspectors of Seattle.——Dr. Alfred J. Helton has been appointed health officer of North Yakima, vice Dr. Thomas Tetreau.——Dr. Philip Frank, North Yakima, has been elected president of the State Board of Health, and Dr. Elmer E. Heg, Seattle, has been re-elected its secretary for the seventh time.

Illegal Practitioner Sentenced.—William M. Green, Granite Falls, is said to have been fined $50, January 2, for practicing medicine without a license.——Henry C. Karnopp, Spokane, charged with practicing medicine without a license, was fined $50, January 18, and was also ordered to return $70 in fees paid by a patient to him.——Theodore H. Wheeler, Tacoma, on January 30 is said to have been found guilty of practicing medicine without a license and fined.

Communicable Diseases.—Smallpox is reported from Castle Rock.——There are said to be 23 cases of smallpox in Albion. ——There are several cases of smallpox near Belma.——Wenatchee is reported to have about 60 cases of smallpox, the schools have been closed and compulsory vaccination has been ordered.——Scarlet fever is reported at Cheney.——The schools of St. John were closed February 1 for one week on account of the prevalence of scarlet fever.

WEST VIRGINIA.

Malpractice Suit.—In the suit against Dr. William W. Golden, Elkins, president of the state medical association, in which damages to the amount of $10,000 was asked on account of alleged malpractice, the jury returned a verdict in favor of the defendant.

Personal.—Dr. Andrew J. Noome, Wheeling, has been elected vice-president of the Ohio County Medical Society, vice Dr. Harry M. Hall, resigned.——Dr. H. Byron Baguley, Wheeling, has been made assistant surgeon general of the state, with the rank of lieutenant colonel.——Dr. John E. Cannaday, Glendale, has returned from Europe.

Society Meetings.—At the annual meeting of the Marion County Medical Association, held in Fairmont, the following officers were elected: President, Dr. Fred W. Hill; vice-president, Dr. C. W. Waddell; secretary, Dr. James W. McDonald; treasurer, Dr. William H. Sands; censor, Dr. Claude L. Holland, and delegate to the state society, Dr. James J. Durrett, all of Fairmont.——The Eastern Panhandle Medical Association, composed of physicians of Jefferson, Morgan and Berkeley Counties, at its annual meeting held in Charlestown, elected the following officers: President, Dr. William Neill, Charlestown; vice-presidents, Drs. A. Bruce Eagle, Martinsburg, and George S. West, Gerrardstown; secretary, Dr. Richard E. Venning, Charlestown, and treasurer, Dr. Francis M. Phillips, Harpers Ferry.

WISCONSIN.

Sanitarium Burns.—The Oconomowoc Health Resort, Lake Nagawicka, which is in charge of Dr. Arthur W. Rogers, formerly of Wauwatosa, was destroyed by fire January 15, with a loss of $25,000. The 25 patients in the institution were safely removed to neighboring farmhouses.

Till at Work Again.—John Till, who recently paid a fine of $50 for practicing medicine without a license, is now said to have opened an office "for the practice of medicine" at Somerset. The attorney general has directed the district attorney of St. Croix County to inquire into the matter.

Hospital Notes.—St. Mary's Hospital, Watertown, was opened to the public January 9.——The new Home for Incurables, which is being erected at Milwaukee Hospital, with the gift of $50,000 made by Mr. Frederick Layton, is nearing completion. The building will accommodate about 55 patients.

Found Guilty.—In the case of Dr. Edward C. Schnittker, charged with having caused the death of Miss Anna Severson, who died June 6, 1906, from the effects of an illegal operation, the jury is said to have found the defendant guilty of manslaughter in the second degree. In a second petition, the jury is said to have asked for leniency.

Communicable Diseases.—Diphtheria is reported to be epidemic in Washburn.——Scabies is so prevalent in one of the school districts in Stettin, near Wausau, that steps have been taken to close the school for a short time, in order to prevent the spread of the disease.——Scarlet fever is reported to be epidemic at Mygatts Corners.——Smallpox is said to be extremely prevalent on the Oneida Reservation.——La Crosse is said to have about 15 cases of smallpox, and compulsory vaccination is urged by the health officers.

Personal.—Dr. Frank B. Golley has been elected president, and Dr. Arthur T. Holbrook, secretary-treasurer, of the staff of the Emergency Hospital, Milwaukee.——Dr. Daniel B. Collins, Madison, was recently operated on for appendicitis in Madison General Hospital.——Dr. John W. Coon, formerly superintendent of the Milwaukee County Hospital, Wauwatosa, has assumed the management of the Valmora Ranch Sanatorium, Watrous, N. M.——At the annual meeting of the Wisconsin State Board of Health and Vital Statistics, held in Madison, January 29, Dr. William F. Whyte, Watertown, was re-elected president.——Dr. Frederick W. Byers, Monroe, formerly surgeon general of the state, has announced his intention of retiring from practice.——Dr. George C. Ruhland, city bacteriologist of Milwaukee, is ill with diphtheria, contracted while engaged in his official duties.

GENERAL.

Personal.—Dr. John Sayre Marshall, examining and supervising dental surgeon, U. S. Army, who has been in the East, and recently visited his friends in his former home, Chicago, has left for the Philippine Islands on a two years' tour of duty.

Hospital Ship Wanted.—The chief of the bureau of medicine and surgery, U. S. Navy has asked the House committee on naval affairs to recommend an appropriation of $1,000,000 for the construction and equipment of a hospital ship for the Navy.

Hodgkins Fund Prize.—The Smithsonian Institution announces, that in connection with the approaching International Congress on Tuberculosis, to be held in Washington, September 21 to October 12, a prize of $1,500 is offered for the best treatise that may be submitted to that congress on "The Relation of Atmospheric Air to Tuberculosis." This fund is the income of a donation made in 1891 by Dr. Thomas G. Hodgkins, Setauket, N. Y., the object of which was "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." The treatise may be written in English, French, German, Spanish or Italian. The treatises will be examined and the prize awarded by a committee appointed by the secretary of the Smithsonian Institution in connection with the officers of the International Congress on Tuberculosis. The right is reserved to award no prize, if in the judgment of the committee, no contribution of sufficient merit is offered to warrant such action. The Smithsonian Institution also reserves the right to publish the prize treatise. Further information ,if desired, will be furnished by Mr. William D. Walcott, secretary of the Smithsonian Institution, Washington, D. C.

CANADA.

Society Meetings.—The Canadian Medical Association will hold its annual meeting this year in Ottawa, June 9 to 11. Dr. Montizambert, director general of public health, Ottawa, is the president.——The Ontario Medical Association will hold its annual meeting in Hamilton, Ont., May 26-28, under the presidency of Dr. Ingersoll Olmsted, Hamilton.

Health of Winnipeg for December, 1907.—There were 10 cases of typhoid fever in Winnipeg in December; 35 of scarlet fever; 33 of diphtheria; 6 of measles; 2 of tuberculosis, with 2 deaths; 22 of mumps; 9 of erysipelas; 2 of chickenpox, and 2 of smallpox. Smallpox seems to be on the increase both in

Winnipeg and throughout Manitoba. Outbreaks of a mild character have appeared in Carmen, Rossiter and Stonewall.

British Association for the Advancement of Science.—The first occasion this association assembled in Canada was in 1884 in Montreal; next in Toronto in 1897; and it will meet in Winnipeg in 1909. Already considerable progress has been made in the arrangements for the meeting. The Dominion government will grant $25,000 for the entertainment, and the expenses altogether in this direction are estimated in the neighborhood of $50,000.

Patent and Proprietary Medicines in British Columbia.—A bill to regulate the sale of "patent" and proprietary medicines in the province of British Columbia is before the legislature of that province. It provides that the formula or prescription of each "patent" or proprietary medicine shall be printed on the outside of each bottle or package on pain of a heavy fine. The bill is to go into force August, 1908. For the first offense the fine is to be $250; for the second, $500.

New Laboratories Opened.—The new medical laboratories building in connection with Queen's University, Kingston, Ont., was opened formally on the afternoon of January 14. Biology, histology, pathology, physiology and bacteriology will be accommodated in this new building. Dean Connell, in referring to the past of Queen's, stated that the faculty was established in 1854. The Ontario government contributed $50,000 toward this new building, and the minister of education, Hon. Dr. Pyne, stated that he had never seen money so well spent.

Tuberculosis.—British Columbia is taking active steps to restrict the prevalence of tuberculosis. During this year the provincial government has given $20,000 for the equipment of an anti-tuberculosis sanatorium; the Medical Society has contributed $30,000; the Canadian Pacific Railway, $10,000, and the citizens, $20,000, making a total of $85,000. A commanding site has been secured on the bank of the Thompson River, eight miles west of Kamloops, 11,000 feet above sea level, with an average rainfall of 10 inches and a light snowfall. A large farmhouse on the grounds has been rearranged so as to accommodate 15 patients in addition to the superintendent, nurses and others. The sanatorium was formally opened Nov. 15, 1907, and 15 patients are now undergoing treatment.——A high mortality still prevails in Ontario from tuberculosis. During 1907 the division registrars reported 1,933 deaths, as against 1,996 for the previous year. Tuberculosis caused the deaths of 874 more persons in the province in 1907 than did smallpox, scarlet fever, diphtheria, measles, whooping cough and enteric fever together. Having regard for the fact that 11 per cent. of the deaths in Ontario is due to tuberculosis, the Ontario board of health will recommend the government to enact legislation making notification of tuberculosis compulsory. In the ten years from 1896 to 1906 there have been 36,700 deaths from tuberculosis in the province. The records show that there are about 12,000 cases continually in existence throughout the province. Dr. Forbes Godfrey, member of the legislature from Mimico, has proposed a resolution to the Ontario legislature, calling for the appointment of a commission to investigate the conditions in the province with regard to tuberculosis, and as to the advisability of establishing a provincial sanatorium.

FOREIGN.

Scandinavian Congress for Internal Medicine.—The Sixth Northern Congress for Internal Medicine will meet at Bergen early in July to discuss the diagnosis of incipient tuberculosis of the lungs and functional diagnostics in general.

Celebration of the Centenary of Darwin's Birth.—The council of the senate of the University of Cambridge has recommended that the centenary of the birth of Charles Darwin be celebrated by the university during the week beginning June 20, 1908.

Koch's Lantern Talk on Sleeping Sickness.—Kaiser Wilhelm and his wife were present at the lantern talk given by Robert Koch January 30, portraying his experiences in Africa and the present condition of sleeping sickness. He starts March 1 for a trip around the world, coming to America first, as already mentioned.

Alvarenga Prize for Work on Gastric Ulcer.—The committee in charge of the awarding of the Alvarenga prize of $200 announces as the theme for 1909, "The Internal and Surgical Treatment of Chronic Gastric Ulcer and Its Results." Competing works must be sent with name in a separate sealed envelope to Professor Strauss, Kurfürstendamm 239, Berlin W., 50. The name of the prize winner will be announced July 14, 1909.

Banquet for Neisser.—The leading lights in the profession and the public authorities at Berlin tendered a banquet to Albert Neisser, January 31, on his return from his research on syphilis in Java. Arning of Hamburg toasted the teacher and investigator, and Ehrlich of Frankfurt toasted Madame Neisser, "the true complement" of the scientist. In his reply Neisser said that his research in Java had not led to the discovery of a curative serum or preventive vaccination for syphilis, but that it had established that mercury not only has a symptomatic action, but certainly neutralizes the toxin.

Goiter Research in Switzerland.—The *Allg. med. Ct.-Ztg.* states that of the young men enrolled in Switzerland for military service who have to be rejected on account of physical defects, more than 14 per cent. are rejected on account of goiter. The figures for 1901-1905 were 6,922 with goiter out of 40,736 rejected for various physical reasons. A committee has recently been formed in Switzerland for study of endemic goiter, to which some of the most prominent physicians in the country belong. The committee has entered on its work with special energy owing to the increasing importance of goiter in respect to the military service.

Epidemic Outbreak Resembling Plague in China.—Consul-General Fowler, at Tengchow, reports, December 21, an epidemic outbreak in that city of a disease resembling plague which has caused over 200 deaths. In some parts of the city a fatal case occurred in nearly every house, and in some instances entire families died of the disease. Death is reported as occurring within a few hours or days of the onset of the disease. The city officials have received orders to clean the city and an attempt is being made to organize paid rat destruction. The disease is said to have been introduced by laborers from Manchuria. A later telegram states that the epidemic is becoming less severe.

Deaths in the Poor and Wealthy Precincts of Paris.—The latest statistics in regard to Paris show that measles, scarlet fever, diphtheria, infantile diarrhea, tuberculosis, meningitis and cirrhosis of the liver predominate in the poorer quarters, as has also been observed in other European capitals. On the other hand, typhoid fever and cancer do not seem to be influenced by the wealth or poverty of the precinct, and congenital debility and deformities of various kinds prevail most numerously among the well to do, the middle classes and merchants showing the maximum. The *Semaine Méd.*, January 29, gives the details from the last annual bulletin published by Bertillon, chief of the vital statistics office.

New International Journal of Epilepsy.—A new international quarterly, to be called *Epilepsia*, is to be devoted to the study and treatment of this disease from the therapeutic, social and judicial points of view. It is announced as under the patronage of Drs. W. Bechterew, O. Binswanger, J. Hughlings Jackson, L. Luciani, H. Obersteiner and F. Raymond. The editorial staff includes the names of H. Claude, Paris; A. Turner, London; L. Bruns, Hanover; W. P. Spratling, Sonyea, N. Y., and J. Donath, Buda-Pesth, who is the active editor for the first year, with L. J. J. Muskens of Amsterdam as secretary. French, German and English will be the official languages. The price is not yet announced. Scheltemer and Holkema of Amsterdam are to be the publishers. Subscriptions may be forwarded through the *Journal of Mental and Nervous Diseases*, 64 West Fifty-sixth Street, New York.

Introduction of Women Nurses into French Military Hospitals.—The hospital connected with the military medical school at Val-de-Grâce, near Paris, is to be equipped with women nurses—a great innovation for France. If found to work satisfactorily, as has long been the case in England, the other military hospitals will be supplied with women nurses. The nurses at Val-de-Grâce are to be appointed by a competitive examination, and the *Presse Médicale* comments that it would be much better to have the authorities select from other institutions nurses best adapted for the purpose instead of trusting to the results of such an examination. The editorial further queries whether the military authorities aim to supply for their hospitals a picked force of high-grade trained nurses or whether they will be willing to accept nurses of the grade of maids of all work, devoted but ignorant. Such an important innovation, it says, should be managed with wisdom. The accommodations for the nursing force in the French hospitals are generally so uninviting—as most of the buildings were built so long ago—that the service has not hitherto attracted the same grade of women as in America and England, but these conditions are being gradually remedied. Germany is also introducing women nurses into some of the army and navy hospitals.

LONDON LETTER.

(*From Our Regular Correspondent.*)

LONDON, Feb. 1, 1908.

Epidemic of Influenza in London.

Influenza of a virulent type is prevalent in London and the provinces. Thirty-two deaths due to the disease occurred in one week and in the three preceding weeks 28, 21 and 25, respectively. In other parts of the country and in Edinburgh and Glasgow the disease is also rife.

Delirium Tremens and Sudden Deprivation of Alcohol.

It has often been stated that it is dangerous for the subjects of delirium tremens to be deprived of alcohol suddenly, but the recently published prison statistics of England and Wales confute this. During the year, 212,000 persons were incarcerated, of whom 132 died. In the latter, delirium tremens was certified as a cause of or a condition at death in only 3 cases. Yet 63,000 persons, of whom one-third were females, were sent to prison for drunkenness. Many other prisoners were of course notorious drinkers. Among the prisoners (suddenly deprived of alcohol) 246 cases of delirium tremens were recorded, of which one-fourth occurred in females. Of these, 4 men and women were certified as insane and sent to an asylum, 159 men and 59 women had recovered, and 16 men and 6 women were discharged at the end of their term. Epileptiform convulsions were rare among alcoholic prisoners.

Dr. Hughlings Jackson and the National Hospital for the Paralyzed and Epileptic.

The staff of the National Hospital for the Paralyzed and Epileptic has commemorated the long services of Dr. Hughlings Jackson to the hospital and to neurology by placing a marble bust representing him in the hall. The "father of neurology" is now consulting physician to this hospital and to the London hospital. He is the most distinguished of that distinguished group of workers who formed the staff of this hospital a generation ago and who have built up the science of neurology in this country—Brown-Séquard, Russell Reynolds, Buzzard, Bastian, Gowers. These men have been succeeded by names equally eminent—Ferrier, Beevor, Omerod, Victor Horsley, Risien Russell and others. In the period between 1880 and 1890 the hospital was not only the center of neurologic interest in Great Britain but of neurologic progress in the world. Students from every country in Europe and from America flocked to it, as indeed they still do. Similarly, patients come to it from all over the world—even from such distances as Asia, the United States and the British colonies.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

VIENNA, Jan. 27, 1908.

An Epidemic of Influenza.

The variable weather throughout this country has caused an epidemic of influenza, somewhat different in type from preceding epidemics within the last twenty years. The attack generally begins with high fever (104 F.), lasting one or two days, and terminates quickly, after three or four days, with bronchitic symptoms. As sequelæ, affections of the accessory sinus of the nose are reported. Whole families are stricken, many physicians are themselves affected and even lectures at the University have had to be suspended on account of the absence, both of students and lecturers. The mortality is not higher than usual, but the morbidity is very high. Bacteriologic examinations prove the presence of Pfeiffer's bacillus, but its virulence is markedly lower than expected.

Strike of a Medical Staff.

A remarkable strike from an unusual motive occurred recently in the Wiedner Hospital, and has led to an improvement both for the staff and the patients. The quality of the food offered to the staff has been constantly growing worse, so that finally the rations were refused. A system of "economy" was responsible for the deterioration. When the scandal became public the administrative board had to resign and it was determined that in the future the food for the staff should be subjected to an inspection by one of the staff members before being served.

Medical Life Insurance.

A movement has been set on foot to establish a special life insurance for practitioners. As now planned this would not only involve a substantial reduction of the rates for practitioners, but also an addition to the funds of the Medical Chamber for relief purposes.

Therapeutics

Lobar Pneumonia.

(*Concluded from page 545.*)

GENERAL TREATMENT.

There is no acute disease that needs fresh air and plenty of it so much as does pneumonia. With a whole lobe of a lung, or more, unable to respire, fresh, clean, oxygenated air is an absolute necessity. The frequency of the respirations is diminished, the heart is slowed, and the temperature becomes lowered. There should be no drafts on the patient, but the windows should be wide open; the open-air treatment of pneumonia is an unexpected success.

The same cleanliness and the same care of the mouth as is advised in typhoid fever should be carefully carried out in pneumonia. Also, in this very exhausting and rapid disease the patient should not be often disturbed when he is quietly sleeping, either for medicine or for nourishment.

No coal-tar products or other antipyretic drugs or cardiac depressants should be administered after the first twenty-four hours of pneumonia. If the temperature is troublesomely high, which it generally will not be with the proper fresh-air treatment, the patient may be sponged with tepid water. This sponging should be confined to the abdomen and extremities. The thorax should not be sponged except for cleanliness, and then with hot water. It is not necessary to sponge to reduce temperature if the fever is below 103 F., as, unlike typhoid fever, this disease does not tend to last for weeks, and a temperature above 102 F. for a few days can do no harm, or even above 103 F. for a short time.

Gentle massage of the extremities, with or without alcohol, aids the circulation, promotes the excretion of muscle toxins, and often aids in relieving the toxemia.

Pneumonia patients have been fed too much. It is unwise to push nutrition or to give large quantities, even of milk, at any one time in this disease. Indigestion with consequent flatulence and tympanites is a condition very serious in pneumonia, and any nutriment found to cause gastric or intestinal disturbance should not be given. If milk agrees with the patient perhaps there is no nutriment better, but a quart, at the outside limit, in twenty-four hours is sufficient. Two raw eggs a day, given in bouillon, in coffee, or with sherry or brandy, as seems best, furnishes the kind of albumin the patient needs. If there is but little fever the eggs may be poached, if desired. The expressed meat serum from a pound of beef should be given, in divided doses, each twenty-four hours, provided the kidneys are intact.

If the heart is doing well and there is no trouble in the other lung the drinking of plenty of water should be encouraged. On the other hand, if the heart is laboring and there is bronchitis or edema or congestion of the other lung, water should be reduced, and even the liquid diet should be scanty.

The bowels should be moved daily, often best with a small glycerin enema, but if the tongue is badly coated, a gentle saline purge should be given, using the most agreeable one.

When the blood count shows a deficient leucocytosis, some nuclein treatment has been recommended. This may be administered as a grain of nuclein two or three times a day; a two or three-grain thymus tablet two or three times a day; or, if the patient's stomach will tolerate it, yeast. The yeast used for this purpose is the upper layer of brewers' yeast, and should be administered in tablespoonful doses, in water, two or three times a day. This makes a sour drink, very pleasant to some patients, and acts as a laxative. It seems to be proved, however, that the increased number of polymorphonuclear cells caused by nuclein preparations does not quite do the work of the polymorph leucocytes caused by an infection. In septic

processes, however, the yeast seems to be of value. It must not be forgotten that if any nuclein treatment is pushed it causes slight depression and some dilatation of the blood vessels. The whole subject of the nuclein treatment of infections is still open for discussion.

LOCAL APPLICATIONS.

The question of local applications to the side of the chest involved is always the subject of controversy and discussion. Though advocated by a few physicians in this country and by many in Europe, applications of ice to the chest to abort pneumonia are rarely successful and generally are not tolerated by the patient. On the other hand, the pain, in the first stage of pneumonia, is largely relieved by hot, moist applications, and less morphin is required for this purpose. In the second stage, if the expectoration is free, moist applications or poultices are not indicated, but when it seems difficult for the patient to cough up the excretion, or the cough is more or less dry, hot moist applications to the lung are of benefit, when the surroundings and care of the patient are such that the body is not allowed to get chilled while the applications are being changed. These applications may be of cloths wrung out of hot water or hot water and alcohol and covered with oil silk, or, better, flaxseed poultices bound close to the chest; these retain the heat much longer than the hot-water applications, especially if the hot-water bag is placed alongside of them. Such applications should be changed every two or three hours, and not be allowed to become cold. Poultices should not be long used in the pneumonias of children, as it is probable that they may so dilate the blood vessels of the pleura as to encourage the pneumococcus to locate there and cause an emphysema.

When the poulticing is to be stopped, the poultices should be gradually made smaller and finally replaced by dry cotton.

There are no medicinal properties in glycerin pastes. They certainly make an impervious dressing over the chest and act like a poultice, but the discomfort of getting them off and reapplying them, and the dirtiness of the treatment, should prevent such dressings being used. They can do no more good than the pneumonia jacket. Also, the pneumonia jacket is not indicated in pneumonia patients except with children who can not be carefully cared for in the houses of the poorer classes. With such patients, while the fresh-air treatment at an open window or on a balcony, if possible, is being carried out, the thorough protection of the chest, back and shoulders with a pneumonia jacket, which can be easily unpinned and the body cleansed, is advisable.

Let it be repeated that patients without much pain and with free expectoration do not need any application to the chest whatever. Also, patients with weak-acting hearts and a large amount of bronchial secretion and with low temperature should not be poulticed.

At least once a day, and better, twice or more times daily if there is profuse perspiration, the room should be warmed, and the skin of all the body, chest and back should be well cleansed with hot water or hot water and alcohol. Nothing tends more to promote sleep, to keep the skin healthy and to relieve the kidneys than such treatment. Immediately after the patient is thoroughly covered up, perhaps with a hood over the head, if it is cold weather, the fresh outside air should be again turned into the room.

THE COUGH.

The cough, in the first stage, is controlled or modified by the morphin that generally must be given for the pain. In the first part of the second stage it is often necessary to give some simple expectorant to cause the mucopus to be more readily raised and expectorated. For this purpose nothing is more efficient than small doses of ammonium chlorid, ammonium carbonate being too irritant to the throat and stomach. Whether or not this ammonium chlorid shall be combined with a sedative depends on the frequency and irritability of the cough. Generally it is not needed. If a sedative is needed the sulphate of codein is better than morphin or heroin.

℞.	gm. or c.c.		
Codeinæ sulphatis	20		gr. iv
Ammonii chloridi	5		ʒiss
Syrupi ipecacuanhæ	5	or	fl ʒiss
Syrupi acidi citrici	25		fl ʒi
Aquæ ad	100		ad fl ʒiv

M. et Sig.: A teaspoonful, in water, every three hours.

Or:

℞.	gm. or c.c.		
Ammonii chloridi	5		ʒiss
Acidi phosphorici diluti	5	or	fl ʒiss
Syrupi	25		fl ʒi
Aquæ ad	100		ad fl ʒiv

M. et Sig.: A teaspoonful, in water, every three hours.

If either of the above sour mixtures is disagreeable to the patient, it may be administered in Vichy or carbonated water.

As soon as the expectoration is profuse, a cough mixture is not needed, unless, later, terpin hydrate is indicated to stop the continuous bronchorrhea, the pneumonic process having cleared up.

CARE OF THE HEART.

With the fresh-air treatment of pneumonia, with the cleansing and tonic sponging of the body, with the prevention of fermentation from too much or ill-advised nutriment, with the proper daily evacuation of the bowels, and with the diminution of the amount of liquid taken if the heart shows signs of weakening, cardiac stimulants and tonics are often not needed. Alcohol should not be given just because pneumonia is present. If the skin is dry, and little nutrition is desired or taken, a small dose, as one or two teaspoonfuls of whisky or brandy every three or four hours, may be given with benefit. Its food value is considerable and it dilates the peripheral vessels, thus bringing more blood to the surface of the body and tending to promote normal perspiration, thus reducing the temperature and relieving the circulation. If, at any time, while administering such small doses of alcohol the tongue becomes dry, the pulse bounding, the face flushed, or there is the odor of alcohol on the breath, too much is being administered and it should be stopped. Many a delirium in pneumonia has been caused by whisky. Occasionally, in old patients with pneumonia with the temperature low, and a general asthenic condition present, more alcohol may be administered with advantage, but in heart failure alcohol should not be relied on, and should not be administered to meet that indication.

If the patient is strong and sturdy, and there is constant congestion of the face, much better than alcohol is a small dose of nitroglycerin, given four times in twenty-four hours, in doses of 1/200 or 1/100 of a grain, depending on its effect. This drug dilates the peripheral blood vessels and thus relieves the internal congestion, and by reducing the blood tension relieves the congestion of the brain.

If there is great dyspnea during the active stage of pneumonia, with considerable cyanosis, and the blood vessels are full and tense, venesection should again be considered. If, on the other hand, there is failure of the heart and low blood tension, the respiration is labored, and there is evident venous congestion from the failure of the right side of the heart, strychnin sulphate is indicated, and may be given in small doses by the mouth to forestall such a condition. The dose should be 1/30 of a grain every six hours, and if there is considerable heart weakness, it should be given hypodermatically at least once in twelve hours. In actual heart failure no reliance should be placed on drugs administered by the stomach. Strychnin in very large doses or too frequently repeated has done harm, and it should not be pushed. In very

large doses it seems to prevent the heart from properly dilating during diastole and also seriously excites the nervous system. In other words, very large doses or very frequent doses of strychnin are harmful in pneumonia.

Though digitalis is advised by some clinicians, much harm has been done by this drug in pneumonia, and it is the general opinion that it should not be administered in this disease.

Intramuscular injections of ergot, especially if there is cerebral congestion as shown by meningeal symptoms, and especially if there is low pulse tension and failing heart, has seemed to save life. An antiseptic preparation should be used; it should be injected into the deltoid muscle under antiseptic measures. The dose is a syringeful of the fluidextract, every three hours for two or three doses, and then every six hours for several doses, to be stopped as soon as the circulation is improved. With a clean syringe and antiseptic cleanliness, abscesses are not caused, and any slight swelling and tenderness is easily subdued by a wet dressing.

Caffein, best given in the form of a small cup of coffee once or twice in the morning, with or without milk as the patient desires, provided there are no meningeal symptoms, has good action both as a cardiac stimulant and as a diuretic, and is often agreeable.

In the emergency of a sudden heart failure the hypodermic injection of nitroglycerin and strychnin and two or three injections into the muscles of a saturated solution of camphor in olive oil may tide over the condition and save life. Five drops every fifteen minutes for several times, of a solution of a suprarenal preparation (1 to 1,000), diluted with an equal number of drops of water and placed on the tongue is often of marked benefit. Such suprarenal treatment, however, should not be continued too long nor should too large doses be given, as it may cause respiratory depression. Inhalations of oxygen are also of marked benefit in such a condition.

It must be reiterated, however, that the proper carrying out of the fresh air treatment of pneumonia will generally preclude the necessity of cardiac stimulants, cardiac tonics and the oxygen tank.

If from failing heart there is edema of the well lung, the amount of liquids ingested should be greatly reduced, and to prevent hypostatic congestions the patient should be moved from side to side and not allowed to rest on the back for any great length of time.

If the secretion of the kidneys is insufficient, the tongue is dry, and in spite of the administration of plenty of water the skin is dry, a high injection of physiologic saline solution, a pint once or twice a day for a few times, is an efficient diuretic.

CEREBRAL SYMPTOMS.

There is nothing better than cold, clean air to cause sleep in pneumonia, and if the bowels are properly moved daily and intestinal fermentation is prevented so that the secondary toxins are not absorbed the patient will generally sleep. If there is actual cerebral congestion, ergot given intramuscularly as above described is the best treatment, unless the pulse tension is very high, in which case nitroglycerin and saline purgatives should be considered and one or two doses of chloral, or one or two doses of bromids may be used. If the delirium is very active, a hypodermic of hyoscin hydrobromate, from 1/200 to 1/100 of a grain, is often the most successful treatment. Morphin should not often be resorted to, as the dose required is very large, and large doses are dangerous in pneumonia. If the fever is high an ice cap to the head will do good, but again, let it be repeated, that the proper care of the bowels, the proper amount of food, the withholding of alcohol, never administering it in large doses, never pushing strychnin to the irritant point, and the open-window treatment of pneumonia will prevent cerebral symptoms.

Pharmacology

AMOLIN DEODORANT POWDER.

What It Is Claimed to be and What It Is.

Last week (page 545) we published a query and reply regarding Amolin, a "patent medicine" for which unusual claims are made, and we stated that the powder was being examined in the Association's laboratory. The results of the analysis are given in the following report:

> The specimen submitted to the laboratory for examination is labeled "Amolin Deodorant Powder" and is stated to be made by the Amolin Chemical Company." On the label of the package it is stated concerning Amolin:
>
> "Destroys all odors of perspiration."
> "Wherever it touches it instantly deodorizes."
> "Its wonderful healing and deodorizing properties, combined with absolute harmlessness, make it infinitely superior to any preparation hitherto sold."
> "Amolin powder relies chiefly for its antiseptic, deodorizing and therapeutic potency upon a coal-tar derivative of the phenol hydrocarbon series, which differs from carbolic acid in being agreeable in odor, healthful and absolutely harmless."
>
> Examination of the contents of the package proved it to be a very fine white powder slightly unctuous to the touch, similar to boric acid or talcum, and emitting a faint odor of thymol. Qualitative tests showed the presence of large quantities of boric acid and traces of thymol. Further examination demonstrated the absence of alum, zinc salts and of other metallic constituents, usually employed in the preparation of deodorant powders. Neither did the tests indicate the presence of salicylic acid, phenol or any similar organic antiseptic except thymol. These tests were proved to be correct by the results of quantitative analysis of Amolin, which showed that approximately 99 per cent. of the powder is boric acid.
>
> The statement on the label
>
> "Amolin powder relies chiefly for its antiseptic deodorant and therapeutic potency on a coal-tar derivative of the phenol hydro-carbon series, which differs from carbolic acid in being agreeable in odor, healthful and absolutely harmless,"
>
> evidently is intended to refer to thymol. But inasmuch as Amolin contains but a small quantity of thymol, and instead consists of boric acid to the extent of 99 per cent., the antiseptic properties of the powder must be due to the latter constituent alone.

NINETY-NINE PER CENT. BORIC ACID.

In plain words this remarkable powder is practically nothing but boric acid, and furnishes another illustration of what has so often been proved, i. e., that "patent" and "ethical proprietary" medicines usually depend on some well-known drug, or drugs, in every-day use for whatever therapeutic value they possess. This particular preparation happens to come under the designation of "patent medicine," simply and only because it is advertised to the public direct, and the physician who wrote us got his knowledge of it through a patient—reversing the usual order.

BORIC ACID AND ITS QUALITIES.

Boric acid is a good thing; there is no doubt about it. It makes a splendid dusting powder; there are few, if any, better. Modify it as one may, give it an odor or a color to disguise it as one pleases, surround it with mystery or secrecy as one sees fit, it is still but boric acid with all its virtues—and limitations. Dissolved in water, it makes as good a mouth wash, as good an antiseptic solution as any of the high priced, extravagantly advertised, antiseptic lotions on the market, of which it forms the chief and most important ingredient.

Proprietaries Depend on Well-Known Drugs.

The above matter on "Amolin" should suggest to us that if we would give more thought and study to the official drugs at our disposal, we would find ourselves depending less on proprietaries. To become conversant with all of such drugs as have proved valuable therapeutic agents would not be difficult,

for the number is not large. When we get down to actual facts we find that all "patent" or "ethical proprietary" medicines that have any claim to therapeutic value depend for such value on some of these few proved drugs.

This is well shown in the case of the two valuable but inexpensive drugs, boric acid and acetanilid, that form the bases of a large number of high-priced proprietaries. By disguising these well-known chemicals, through the addition of substances more or less inert, and the substitution of names that are either meaningless or misleading, the nostrum makers have been able to make millions of dollars. It is but necessary to call to mind such acetanilid mixtures as Antikamnia, Phenalgin, Labordine, Phenobromate, Sal-Codeia—Bell, Ammonol, and the large number of similar "patent medicines," to realize that this statement is no exaggeration. The results obtained by prescribing any one of these nostrums are what would be obtained by giving the contained amount of acetanilid, since the other ingredients—except the codein—have no appreciable effect.

In like manner boric acid is the principal, and in fact the only, ingredient of any value, in a large number of antiseptic dusting powders and solutions that are exploited to physicians as "ethical proprietaries." The same is true of most of the mouth washes, toilet powders, dentifrices, etc., offered to the public.

What is true of the boric acid and acetanilid preparations is equally true of practically all proprietary medicines. Could we believe the advertising, these preparations contain rare drugs and chemicals, are produced by methods requiring much skill and knowledge and are endowed with extraordinary therapeutic virtues. These fictions are invented for the sole purpose of investing the preparations with secrecy and mystery, the elements so essential to the successful exploitation of all "patent" and proprietary medicines. Stripped of misrepresentation and divested of the apocryphal virtues with which the advertiser has clothed them, we find that practically all such preparations are but mixtures of ordinary drugs, the prescription for which any physician can write and any first-class pharmacist compound.

If we would realize this, would study and use in our daily practice the drugs of proved value that are at our command, would refuse to be misled by the unwarrantably optimistic literature thrust on us at every turn and would cease prescribing preparations whose chief virtue is a catchy and easily remembered name, there would soon be a radical change in the proprietary medicine business.

Sodium Oleate in Pharmaceutical Preparations.

The recent exploitation of preparations sold as sodium acid oleate makes advisable a discussion on the composition of these compounds as well as on the close relationship existing between them and the well-known official "Castile" soap. They serve as excellent examples of the manner in which physicians are led to accept simple and well-known articles disguised by loosely applied chemical names which surround the preparation with mystery and a pseudoscientific atmosphere.

One of the earlier sodium acid oleates examined by the Council on Pharmacy and Chemistry was a preparation manufactured by *Vereingte Chininfabriken*, Zimmer & Co., Frankfort a M., Germany (Bischoff & Co., agents), as a cholagogue under the name of "Eunatrol."

This was claimed by the manufacturers to be an "acid oleate of sodium," with the formula of $(C_{18}H_{33}O_2)_3Na_2$, a pure oleate of sodium in which three atoms of hydrogen have been replaced by two sodium atoms. But no such chemical compound has been isolated or described and, according to authorities, such a compound is an absurdity. Working even on the supposition that these compounds were not acid oleates but mixtures, chemists have reported to the Council on Pharmacy and Chemistry that the claims are still erroneous as regards the composition of Eunatrol. According to the formula given by the manufacturers, the content of sodium oleate should be 68 per cent., but two chemists, working entirely independently, reported that "Eunatrol" contains 55 per cent. free fatty acid and but 39 per cent. soap, showing that the preparation lacks 29 per cent. of sodium oleate in order to conform to the manufacturer's formula. These analyses[1] have further shown that the sodium acid oleate, so-called, is simply a mechanical mixture, consisting of approximately one part of sodium oleate or soap and two parts of free fatty acid.

The conclusion drawn from the chemical analysis, namely, that the commercial acid sodium oleates are really mixtures and not definite chemical bodies, is substantiated by the statements of the foremost pharmaceutical manufacturers, who, in reply to inquiry, state that the "sodium oleate (acid)" listed in one of their catalogues was "made at the request of some physicians who wanted a sodium oleate which contained an excess of oleic acid," thus, openly and without reserve, telling the medical world that "acid oleates" are simply mixtures of soap and oleic acid. Still another firm makes open statements showing that they "use commercial sodium oleate made acid by the addition of 5 per cent. of pure commercial acid," thus adding evidence against the manufacturers who placed on the market soap and oleic acid and claimed it to be a definite chemical compound.

Sodium oleate is the chief constituent of Castile soap and for a long time has been used in that form with satisfactory results. Why, then, should we pay an exorbitant price for a proprietary substitute of a well-known official remedy which any pharmacist can dispense, simply because it bears a chemical name, high sounding, but loosely and inaccurately applied? The addition of oleic acid to the soap can have no added effect on the therapeutic value of the remedy, for as soon as the compound enters the stomach the sodium oleate is acted on by the gastric juice which gradually changes the oleate into oleic acid, with a speed depending on the solubility of the pill. As soon as oleic acid thus formed, as well as the acid originally present in the compound, passes into the alkaline contents of the intestine the reverse action begins to take place and sooner or later the whole of the oleic acid is converted back to sodium or potassium oleate, and the remedy then acts in the same way as if the soap had been administered in the first place. So "sodium acid oleate" is not only a misnomer, but misleads physicians into believing that they are getting a new compound when in reality it is nothing but soap with free oleic acid added.

Reform in Advertising.

The Harrison County (Miss.) Medical Society has adopted the following resolutions, commending the New Orleans *Morning World* for its action in throwing out all objectionable medical advertisements.

WHEREAS, The *Morning World*, a daily paper of New Orleans, states that it has no room for quack doctors, quackeries and fakeries, and declines to publish notices of abortifacients and abortionists, and pledges itself not to print objectionable and immoral medical advertisements; therefore, be it

Resolved, That the Harrison County Medical Society heartily endorses this action on the part of the publishers of the *Morning World*, as we do not believe that the public press should print advertisements concerning private and venereal diseases to be carried into our homes for our wives and children to read; and be it further

Resolved, That other medical societies be asked to endorse this feature of the *Morning World*, and to send copies of this endorsement to the editors of that paper, and that a copy of these resolutions be sent to the *Morning World* and to the *Mississippi Medical Monthly*.

This action on the part of the publishers of the *Morning World*, evidently undertaken spontaneously, is most commend-

1. In the analysis of such a mixture, as a pharmaceutical oleate, it is necessary to determine the quantity of free fatty acid, soap and free alkali. The chemists showed by direct estimation that the Eunatrol contained only an amount of combined fatty acid equivalent to only 39 per cent. of sodium oleate: by direct determination of the uncombined acid they found free fatty acid equivalent to 55 per cent. By igniting a sample of the preparation an alkaline residue was left whose alkalinity was determined and calculated as total alkali. When this, in turn, was calculated as sodium oleate, it indicated 69 per cent. of sodium oleate, and it seemed that the claims of the manufacturers were, after all, justifiable. But as the preparation was found to contain free alkali, uncombined with oleic acid, it is self-evident that such a calculation would give totally wrong results. This leaves the direct method of estimating sodium oleate as the only dependable one and leaves the result, 39 per cent. sodium oleate, as final, over the result obtained by calculating sodium oleate from the total alkali found. It is more than probable that the manufacturers based their claims on just such an inaccurate method as the one just described.

able. The time is past when the owners of great city dailies can take the position that there is no connection between the editorial and advertising departments, or can with any degree of consistency or self-respect advocate civic righteousness on editorial pages and advertise easy and safe means of committing felonies on the advertising pages. It is to be hoped that the entire medical profession of Mississippi will lend its support and endorsement to the *Morning World*, and that this example will lead the other newspapers of New Orleans to follow the *World* into paths of decency.

Correspondence

Ticks in Transmission of Disease—Specimens Wanted.

WASHINGTON, D. C., Feb. 12, 1908.

To the Editor:—The agency of ticks in the transmission of diseases of man as well as of the lower animals is becoming of such importance that the Bureau of Entomology, in connection with the investigation of the cattle tick, the transmitter of splenetic or Texas fever of cattle, is also taking up the study of the biology of the other ticks found in this country.

The importance of such an investigation into the life history and habits of ticks has been apparent in South Africa and in Europe for nearly a decade, but not until within the past year (with the exception of the North American fever tick), has it been the case in this country. After failure by several scientists to connect the tick with the Rocky Mountain spotted fever, Dr. H. T. Ricketts, following careful and extensive experiments, has succeeded in demonstrating that what may now be known as the "spotted fever tick," *Dermacentor occidentalis*, is the active agent in the transmission of the disease. The details of these experiments he has presented through THE JOURNAL. In this brilliant demonstration he has rendered great service to the human family. But there is still much in connection with the source of the disease that remains to be discovered. What is the source of the disease? What animal harbors the protozoan (if such it be), in its blood, etc.? The elucidation of the information needed will come with a further experimental study of the life history and habits of the ticks. We are glad to learn that Dr. Ricketts will continue his research in Montana during the coming spring and trust that his already brilliant discoveries will be added to.

The importance of the valuable studies of Dr. L. O. Howard, chief of the Bureau of Entomology; Dr. J. B. Smith of New Jersey, Dr. E. P. Felt of New York and others on the biology of the mosquitoes is now fully appreciated. In order to impress on the minds of the entomologic fraternity the importance of the study of the ticks I prepared a paper for presentation at the meeting of the Association of Economic Entomologists, held at Chicago, Dec. 27-28, 1907, in which the agency of ticks in the transmission of disease was reviewed.

The studies now being made by this bureau on the biology of the ticks, particularly as related to host relationship and geographical distribution require the cooperation of collectors from all parts of the country. The Bureau of Entomology will be glad to receive ticks from any physician, will identify them and will furnish any information desired. Because of their easy access the domestic animals have in the past furnished the greater part of the collections. While further collections from these animals are needed, extensive collections from game birds and mammals are also required. In connection with the hunting trip ticks can be collected in a pill box or in vials carried in the pocket. Some ticks leave the host as soon as the blood commences to coagulate and to capture these it has been found necessary to examine the host at once over a white surface, such as a newspaper. The ticks collected will be of the greatest value if forwarded immediately on collection, alive in small boxes, sufficient moisture being furnished by the use of green leaves or moist absorbent cotton. Ticks from different hosts should be kept separate, and data as to the locality, host, date and collector should accompany the sending. On birds, the ticks are usually found attached to the head or neck, protected by the feathers.

All material should be sent to the southern field laboratory of this bureau at Dallas, Texas, which is in charge of Mr. W. D. Hunter, under whose direction I am carrying on the work on the biology of ticks. Any further information as to collecting, etc., will be gladly furnished.

W. A. HOOKER,
Bureau of Entomology, U. S. Department of Agriculture.

Hypersusceptibility to Serum in Human Beings.

RIVERDALE-ON-HUDSON, N. Y., Jan. 24, 1908.

To the Editor:—Dr. Wiley's case of sudden death after the injection of antitoxin, in THE JOURNAL, Jan. 11, 1908, page 137, recalls a personal experience which may be of interest. In August, 1904, I was called to a case of tonsillar diphtheria. I injected 3,000 units of antitoxin into the muscles of the patient's back without any untoward effects. At the same time, as I was suffering with painful and swollen tonsils, I injected 1,000 units of antitoxin into myself as a precautionary measure, plunging the needle deeply into the muscles of the forearm. The dose for the patient had only the usual beneficial result: rapid recovery, and no disagreeable aftereffects. On the other hand, I suffered a most violent attack of sneezing, which became violent and uncontrollable, even though firm pressure was made against the upper lip and the sides of the nose, and cold compresses were placed against the face. I left the sickroom in haste, and on my way toward the drug store the nose became intensely congested and respiration through the larynx and lungs more difficult every moment. The irritation in the trachea and bronchi caused a continuous cough. On reaching the drug store I took some brandy, thinking that the increased circulation throughout the body would relieve the congestion of the nose, throat and lungs; but on account of the swollen condition of the tongue and throat, I had the greatest difficulty in swallowing it, even though it was greatly diluted. I was enduring intense pain in the nose, eyes and throat, due to the enormous congestion and irritation of the parts, and there were also burning and swelling of the scalp. When I reached home the eyelids were swollen to immense proportions, making vision almost impossible; the tongue was swollen, making speech thick; the scalp, forehead, nose, lips and cheeks were swollen and erythematous; and the conjunctivæ were injected. During the afternoon and evening the symptoms abated, as the result of a saline purge, douching of the nose and eyes with a detergent solution, and the drinking of quantities of an alkaline water, which I continued throughout the attack. After midnight I was aroused by an intense itching and burning of the entire surface of the body caused by urticaria. Applications of a solution of bicarbonate of soda did no good, and being restless, I went out of doors, thinking that the cool night air might give relief. After walking about in the open, thinly clad, for some time, I felt exhausted but little relieved. I then resorted to mopping the body with sponges dipped in alcohol, which was only partially successful, but eventually I found relief by the application of a spray of chloroform. A hypodermic injection of morphin only aggravated the condition. On the following day I called a fellow practitioner and he ordered a solution of sodium bicarbonate as an application to the urticarial wheals; this, however, increased the eruption as well as the itching; both were controlled, however, by the use of a chloroform spray. On the third day my appearance was again normal, and I was able to attend to my practice, though in a weakened condition. On returning home I was again compelled to go to bed, resume the chloroform spray and treat the injected conjunctivæ and congested nasal mucous membrane. On the fourth day the hands and feet swelled greatly, and a troublesome edema of the glottis threatened, so that preparations were made for a tracheotomy in case breathing should become entirely obstructed. By means of a hot mustard footbath, with cold compresses to the neck and the internal administration of ergot, the symptoms were relieved. Nevertheless, for two weeks after the initial attack, fresh outbreaks occurred, consisting of urticaria and swellings of various parts of the body, including the scalp. There was also purpura covering the entire body. The reaction at the point of injection in my arm was very severe, causing a painful arm and forearm, but

it gradually disappeared, after four or five days, on application of acetate of aluminium, rest and elevation of the part.

I ascribe all these manifestations to the action of horse serum on a "uric acid condition." Soon after my mishap I remembered that about ten years before similar symptoms followed the injection of plain horse serum into my thigh when I was experimenting on tuberculous and syphilitic subjects and desired to ascertain the effect on a presumably healthy individual, which I considered myself to be at the time. The attack was mild and lasted only a day or two, consisting of pain and itching at the point of injection and urticaria over various parts of the body. In twelve years of practice I have seen but one other case in which there was swelling of the tongue and larynx, with thick speech at first and eventually loss of phonation. The symptoms lasted but a short time. Dr. Wiley states that his patient could never be near horses without suffering symptoms of asthma. A similar condition exists in my case, except that instead of asthma the nasal and conjunctival membranes are affected, causing sneezing and itching of the eyelids. This I attribute to the fine particles of hair and dust given off from horses and certain species of dogs.

The lessons which I learned from this disagreeable experience were: First, the beneficial effect of chloroform spray to relieve itching in urticaria; second, the bad effect of morphin in such a condition, as it undoubtedly increased the hyperemia on the surface, and intensified the burning and itching; third, the benefit of arterial contractors, like ergot; fourth, the caution required in administering horse serum to persons suffering from a "uric acid diathesis."

A. EMIL SCHMITT.

PITTSBURG, PA., Feb. 10, 1908.

To the Editor:—In the editorial on hypersusceptibility in THE JOURNAL, February 8, in the report of cases which have been in THE JOURNAL, no note is made of the fact that hypersusceptibility has been found by Otto, Rosenau and Anderson, and others, to be transmissible from mother to offspring. Would it not be worth while, in reporting these cases, to have the question of former administration of antitoxin to the mother, prior to the birth of the child, carefully looked into and recorded in the individual cases as possibly explaining the hypersusceptibility in the child.

WILLIAM CHARLES WHITE.

MOUNT STERLING, KY., Feb. 10, 1908.

To the Editor:—I have just read your editorial in THE JOURNAL, February 8, on "Hypersusceptibility to Serum in Human Beings" and had read of the cases cited in which death occurred following injections of antidiphtheritic serum.

I infer from your article that it is the opinion of those who have looked into the subject that the fatalities are due to some peculiar susceptibility in the individual to the serum of the horse, and I concur in this opinion.

I have a friend who is unable to ride or drive a horse without having symptoms and sometimes a severe attack of asthma. I have never seen any ill effects more than a simple nettle-rash, following injections of antidiphtheritic serum though I have given it to a large number of children and to a number of them twice and several times three times; a year or more intervening between the doses.

Will you kindly answer this question: Does the precipitation of the globulins from the serum and redissolving them in normal saline solution do away with this medium of the horse serum entirely? If so, would it not be well for the profession to abandon the use of the old serum and use the antidiphtheritic globulins altogether?

My understanding is that the globulins contain only or rather are the antitoxin itself. Am I correct in this?

W. R. THOMPSON.

ANSWER:—In answer to the question in the above letter we would state that so far it has not been possible to deprive horse serum by chemical means of either the sensitizing principle or of the toxic principle that produces the symptoms of anaphylaxis in guinea-pigs (see editorial). Rosenau and Anderson, in the *Jour. Infect. Diseases*, 1908, vol. v, page 85, make the following statement: "We find it interesting to compare the toxic effects on sensitized animals of untreated antitoxic serum and the precipitated refined antitoxin; bulk for bulk we found them accurately toxic. But as the same number of units can be given in half the bulk there is a manifest advantage in using the precipitated serum, as the rashes and other untoward effects of serum depend to some extent on the volume of serum administered."

Association News

COMMITTEE OF ARRANGEMENTS.

The Chicago Session of the American Medical Association—Committees in Charge.

The following Chicago physicians are the members of the Committee of Arrangements for the coming session of the American Medical Association in Chicago, June 2 to 5, 1908. For information on matters relating to the functions of the various committees address the chairmen.

CHAIRMAN: Dr. M. L. Harris, 100 State St.
SECRETARY: Dr. R. R. Campbell, 100 State St.
Dr. H. B. Favill, 100 State St., president of Chicago Medical Society.
Dr. W. L. Baum, 103 State St., president of Illinois State Medical Society.

The following members are also chairmen of the various subcommittees specified:

FINANCE: Dr. Frank Billings, 100 State St.
HALLS AND MEETING PLACES: Dr. Hugh T. Patrick, 34 Washington St.
HOTELS: Dr. L. L. McArthur, 100 State St.
RECEPTIONS AT RAILROAD STATIONS: Dr. J. H. Stowell, 103 State St.
ENTERTAINMENTS: Dr. T. A. Woodruff, 72 East Madison St.
BUREAU OF INFORMATION: Dr. J. V. Fowler, 312 Grand Ave.
CLINICS: Dr. A. J. Ochsner, 710 Sedgwick St.
SCIENTIFIC EXHIBIT: Dr. E. R. LeCount, 6026 Monroe Ave.
PRINTING, BADGES, ETC.: Dr. C. P. Caldwell, 4425 Michigan Ave.
ALUMNI MEETINGS, ETC.: Dr. R. T. Gillmore, 103 State St.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

HYPERNEPHROMA.

OSAWATOMIE, KAN., Jan. 28, 1908.

To the Editor:—Please give references to literature on hypernephroma. B. R. RILEY.

ANSWER.—The following articles are included in THE JOURNAL indices since 1901:

"A Case of Hypernephroma of the Kidney Complicating Pregnancy." G. M. Boyd and J. McFarland, *Am. Jour. Med. Sci.*, June, 1902.

"Histologic and Histogenetic Features of a Medullary Hypernephroma of the Kidney." J. C. Ohlmacher, *Jour. Med. Research*, May 1902.

"Hypernephroma or Adrenal Tumor of the Kidney." A. P. Ohlmacher, *Cleveland Med. Jour.*, March, 1903.

"Chemical Diagnosis of Hypernephromas (Suprarenal Tumors) of the Kidney." A. C. Croftan, THE JOURNAL, Jan. 10, 1903, page 91.

"Hypernephroma." P. Thorndike and J. H. Cunningham, *Boston Med. and Surg. Jour.*, Dec. 3, 1903; abstracted in THE JOURNAL, Dec. 19, 1903, page 1559.

"Hypernephroma of Kidney, with Report of a Case." R. W. Hardon, *Ill. Med. Jour.*, May, 1904.

"Secondary Manifestations of Hypernephromata." W. L. Bierring and H. Albert, THE JOURNAL, July 24, 1904.

"Recurrent Hypernephroma in Bronchial Lymph Glands." P. Clairmont, *Archiv. f. klin. Chir.*, lxxiii, No. 3.

"Hypernephroma as a Result of Traumatism, Nephrectomy. Recovery." G. Chandler, *New York Med. Jour.*, Sept. 3, 1904.

"Hypernephroma." W. W. Keen, G. E. Pfahler and A. G. Ellis, *American Medicine*, Dec. 17, 1904.
"A Case of Hypernephroma." W. B. Dorsett, St. Louis Medical Review, Dec. 17, 1904.
"Remarks on the Pathology of Hypernephroma." R. L. Thompson, St. Louis Medical Review, Dec. 17, 1904.
"Three Cases of Hypernephroma." I. C. Herb, *Am. Jour. Med. Sci.*, June, 1905.
"Renal Hypernephroma." P. Kuzmik, *Beiträge z. klin. Chirurg.*, xlvi, 1905-06.
"Case of Hypernephroma." W. J. Taylor, *Am. Jour. Med. Sci.*, February, 1906.
"Clinical and Pathologic Anatomy of Malignant Hypernephroma," P. Albrecht, *Archiv. f. klin. Chir.*, lxxvii, 4; abstracted in THE JOURNAL, Feb. 24, 1906, page 622.
"Case of Hypernephroma of the Kidney." J. M. Berry, *Albany Medical Annals*, November, 1906.
"Hypernephroma Renis." J. W. Bovée, *Surgery, Gynecology and Obstetrics*, July, 1906.
"A Case of Secondary Hypernephroma of the Iris and Ciliary Body." Burton Chance, THE JOURNAL, Feb. 9, 1907, page 475.
"Metastases of Hypernephroma." E. Hoffmann, *Deutsche med. Wochschr.*, xxxiii, 7; abstracted in THE JOURNAL, April 13, 1907, p. 1306.
"Hypernephroma of Kidney: Nephrectomy." I. S. Stone, *Washington Med. Annals*, January, 1907.
"Presence of Lecithins in Hypernephromata." G. Delamare and P. Lecène, *Presse Médicale*, 1907, xv, 27.
"Extirpation of Hypernephroma, Weighing 4¼ Pounds, From an Infant." W. S. Cheesman, *Annals of Surgery*, January, 1907.
"Bone Metastases of Hypernephroma." C. L. Scudder, *Annals of Surgery*, December, 1906.
"Hypernephroma of the Kidney." R. Weil, *Annals of Surgery*, September, 1907; abstracted in THE JOURNAL, Oct. 19, 1907, p. 1401.
"Hypernephroma." I. W. Blackburn, *New York Med. Jour.*, Aug. 17, 1907; abstracted in THE JOURNAL, Aug. 31, 1907, page 801.

SCOPOLAMIN-MORPHIN ANESTHESIA.

GREENSBORO, N. C., Feb. 1, 1908.

To the Editor:—Can you refer me to articles on scopolamin-morphin anesthesia in obstetric practice, other than those contained in THE JOURNAL? F. R. TITTLE, M.D.

ANSWER.—The following articles dealing with scopolamin-morphin anesthesia have been published during the last year:

"Technic of Scopolamin-Morphin Anesthesia." C. J. Gauss, *Centrbl. f. Gynäkologie*, xxxi, No. 2; abstracted in THE JOURNAL, March 9, 1907, page 912.
"First Thousand Childbirths Under Scopolamin-Morphin Anesthesia." C. J. Gauss, *Münch. med. Wochschr.*, liv, No. 5; abstracted in THE JOURNAL, March 16, 1907, page 983.
"Scopolamin-Morphin in Obstetrics." Preller, *Münch. med. Wochschr.*, liv, No. 5; abstracted in THE JOURNAL, March 16, 1907, page 983.
"Technic of Spinal Anesthesia Under Scopolamin-Morphin for Abdominal and Gynecologic Operations." Penkert, *Münch. med. Wochschr.*, liv, No. 5; abstracted in THE JOURNAL, March 16, 1907, page 983.
"Deliveries Under Scopolamin-Morphin." W. Steffen, *Arch. f. Gynäkologie*, lxxxi, No. 2; abstracted in THE JOURNAL, May 25, 1907, page 1821.
"Deliveries Under Scopolamin-Morphin Semianesthesia." Articles by O. Bass and by Hocheisen, *Münch. med. Wochschr.*, liv, No. 11.
"Scopolamin-Morphin Anesthesia in Obstetrics." F. S. Newell, *Surgery, Gynecology and Obstetrics, August*, 1907; abstracted in THE JOURNAL, Sept. 14, 1907, page 969.
"Scopolamin Narcosis in Obstetrics and Influence of Drug on the Child." E. Holzbach, *Münch. med. Wochschr.*, liv, No. 25; abstracted in THE JOURNAL, Sept. 7, 1907, page 885.
"Scopolamin Analgesia in Obstetrics." A. Bertano, *La Ginecologia*, Oct. 31, 1907; abstracted in THE JOURNAL, Jan. 11, 1908, page 139.
"Scopolamin-Morphin in Obstetrics." O. P. Mansfeld, *Wiener klin. Wochschr.*, Jan. 2, 1908; abstracted in THE JOURNAL, Feb. 15, 1908, page 570.
"Scopolamin-Morphin Anesthesia in Gynecology." Emil Ries, *Am. Jour. Obstet.*, February, 1908.

U. S. DIPLOMAS ABROAD.

———, KAN., Feb. 10, 1908.

To the Editor:—In what foreign countries is a diploma from a medical college in the United States recognized as evidence to practice without an examination? S.

ANSWER.—The foreign countries that have had no regulations, or, under whose regulations a graduate of a recognized medical college in the United States could practice without examination, are: East and West Coasts of Africa, Bahama Islands, British New Guinea, Falkland Islands, Orange River Colony, Rhodesia and Transvaal. Before deciding on any location, it would be well to correspond with the United States' consul located in that country to learn whether or not new regulations have been adopted.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 15, 1908:

Davis, W. T., asst.-surgeon, leave of absence extended five days.
Flagg, C. E. B., asst.-surgeon, assignment to duty in the Philippine Islands, revoked.
Gray, W. W., deputy surgeon general, relieved from duty as chief surgeon and attending surgeon, Department of the Gulf, and ordered to proceed to the Philippine Islands, and on arrival at Manila, to report in person to the commanding general, Philippines Division, for assignment to duty.
Shimer, I. A., asst.-surgeon, orders so amended as to direct him, on arrival at San Francisco, to report for duty as surgeon of the transport *Crook*. On arrival at Manila, Capt. Shimer to report in person to the commanding general, Philippines Division, for duty as heretofore ordered.
Hadra, Frederick, contract surgeon, sailed on the *Buford*, February 5, for Philippine service.
Cattermole, C. A., contract surgeon, ordered from Manila, P. I., to San Francisco, for annulment of contract.
Marion, G. L., contract surgeon, ordered from San Francisco, to his home, Elgin, Ill., for annulment of contract.
Slater, E. F., contract surgeon, relieved from duty at Fort Banks, Mass., and ordered to Madison Barracks, N. Y., for duty.
Kress, C. C., contract surgeon, on abandonment of Fort Reno, ordered to Fort Bliss, Texas, for duty.
Craig, E. F., dental surgeon, ordered to Fort Mackenzie, Wyo., for duty for twenty-five days.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending February 15, 1908:

Fauntleroy, A. M., P. A. surgeon, detached from the Naval Hospital, Mare Island, Cal., ordered home and granted leave for two months.
Brown, E. M., P. A. surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to report at said hospital for treatment.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 12, 1908.

Ballhache, P. H., surgeon, directed to report at the bureau for special temporary duty, on completion of which to rejoin his station at Stapleton, N. Y.
Guiteras, G. M., surgeon, directed to proceed to Port Arthur, Texas, for special temporary duty; on completion of which to rejoin his station at Mobile, Ala.
Lavinder, C. H., P. A. surgeon, granted extension leave of absence for 10 days from Feb. 14, 1908.
Foster, N. H., P. A. surgeon, directed to proceed to Ponce, P. R., for special temporary duty, on completion of which to rejoin his station at San Juan, P. R.
Parker, H. B., P. A. surgeon, granted leave of absence for 5 days from Jan. 27, 1908, on account of sickness.
Ramus, Carl, P. A. surgeon, granted leave of absence for 3 months and 23 days from March 1, 1908, with permission to go beyond the sea.
Earle, B. E., P. A. surgeon, granted extension leave of absence for 8 days from Feb. 11, 1908.
Francis, Edward, P. A. surgeon, granted extension leave of absence for 7 days from Feb. 9, 1908.
Bahrenburg, Z. P. H., P. A. surgeon, granted leave of absence for 7 days from Jan. 28, 1908, on account of sickness.
Warren, B. S., P. A. surgeon, relieved from duty at Chicago, and directed to proceed to St. Louis, and assume command of the service at that port.
Ward, W. K., P. A. surgeon, granted leave of absence for one day from Jan. 3, 1908, under Paragraph 191, Service Regulations.
Roberts, N., asst.-surgeon, granted leave of absence for 6 days from Feb. 3, 1908, under Paragraph 191, Service Regulations.
Collins, G. L., asst.-surgeon, granted leave of absence for 7 days from Jan. 28, 1908, under Paragraph 189, Service Regulations.
Mullan, E. H., asst.-surgeon, granted leave of absence for 1 day, Jan. 4, 1908, under Paragraph 191, Service Regulations.
Mullan, E. H., asst.-surgeon, granted leave of absence for 7 days from Jan. 29, 1908, on account of sickness.
Wollenburg, R. A. C., asst.-surgeon, granted leave of absence for 7 days from Jan. 2, 1908, under Paragraph 191, Service Regulations.
Bullard, J. T., acting asst.-surgeon, granted leave of absence for 30 days from Feb. 14, 1908.
Duke, B. F., acting asst.-surgeon, granted leave of absence for 20 days from Jan. 6, 1908, account of sickness.
Eakins, O. H., acting asst.-surgeon, granted leave of absence for 30 days from April 10, 1908, and excused from duty for a further period of two months, without pay, from the expiration of said leave.
Keatley, H. W., acting asst.-surgeon, granted leave of absence for one day, Feb. 4, 1908, under Paragraph 210, Service Regulations.

Thompson, W. R. P., acting asst.-surgeon, granted leave of absence for 12 days, from Jan. 10, 1908.

BOARD CONVENED.

A board of medical officers was convened at Port Townsend, Washington, Feb. 14, 1908, for the purpose of making a physical examination of an officer of the Revenue-Cutter Service, to determine his fitness for promotion. Detail for the board: Surgeon W. G. Stimpson, chairman, and P. A. Surgeon J. H. Oakley, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 14, 1908.

SMALLPOX—UNITED STATES.

Alabama: Mobile, Jan. 26-Feb. 2, 2 cases.
California: Los Angeles, Jan. 18-25, 13 cases; San Francisco, 16 cases.
District of Columbia: Washington, Jan. 25-Feb. 1, 6 cases.
Illinois: Springfield, Jan. 23-30, 13 cases.
Indiana: Indianapolis, Jan. 26 Feb. 2, 2 cases; La Fayette, Jan. 28-Feb. 3, 1 case; South Bend, Jan. 25-Feb. 1, 1 case.
Iowa: Ottumwa, Jan. 25-Feb. 1, 1 case.
Kansas: Topeka, Jan. 18-25, 3 cases; Wichita, 4 cases.
Kentucky: Lexington, Jan. 25-Feb. 1, 1 case.
Louisiana: New Orleans, Jan. 25-Feb. 1, 6 cases, imported.
Michigan: Saginaw, Jan. 8-Feb. 1, 41 cases.
Missouri: Kansas City, Jan. 18-25, 5 cases; St. Joseph, Jan. 11-25, 18 cases.
Ohio: Cincinnati, Jan. 26-31, 8 cases; Dayton, Jan. 25-Feb. 1, 1 case.
Oregon: Portland, Jan. 18-25, 4 cases.
Pennsylvania: Williamsport, Jan. 25-Feb. 1, 1 case.
South Dakota: Sioux Falls, Jan. 1-25, 2 cases.
Tennessee: Knoxville, Jan. 25-Feb. 1, 6 cases; Nashville, 12 cases.
Texas: San Antonio, Jan .18-Feb. 1, 14 cases.
Washington: Spokane, Jan. 18-25, 8 cases; Tacoma, Jan. 8-25, 2 cases.
Wisconsin: Appleton, Jan. 18-25, 1 case; La Crosse, Jan. 25-Feb. 1, 8 cases; Oshkosh, Jan. 18-25, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, Dec. 27-Jan. 3, 32 cases, 15 deaths.
China: Hongkong, Dec. 7-14, 1 case, 1 death.
Great Britain: Edinburgh, Jan. 11-18, 4 cases; Leith, 17 cases, 1 death.
India: Bombay, Dec. 1-Jan. 7, 6 deaths; Calcutta, Dec. 14-21, 2 deaths.
Italy: General, Jan. 8-23, 70 cases; Genoa, Dec. 2-21, 4 cases.
Japan: Kobe, Dec. 21 Jan. 4, 501 cases, 138 deaths; Yokohama, Dec. 20-Jan. 14, 55 cases, 13 deaths.
Portugal: Lisbon, Jan. 11-18, 1 case.

YELLOW FEVER.

Cuba: Habana, Feb. 4-6, 2 cases.

CHOLERA—INSULAR.

Philippine Islands: Manila, Dec. 14-21, 4 cases, 4 deaths.

CHOLERA—FOREIGN.

India: Bombay, Dec. 31-Jan. 7, 1 death; Calcutta, Dec. 14-21, 51 deaths; Madras, Dec. 27-Jan. 3, 9 deaths; Rangoon, Dec. 21-28, 7 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Dec. 27-Jan. 3, 4 cases, 1 death.
Africa: British Gold Coast, Accra, Jan. 13, present.
India: General, Dec. 14-21, 3,410 cases, 2,602 deaths; Bombay, Dec. 31-Jan. 7, 9 deaths; Calcutta, Dec. 14-21, 18 deaths; Madras, Dec. 21-27, 1 death: Rangoon, Dec. 21-28, 7 deaths.
Peru: Catacaos, Jan.4-11, 4 cases; Lima, 2 cases; Paita, 16 cases; Piura, 6 cases; Trujillo, 15 cases.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

CONNECTICUT State Board of Medical Examiners, City Hall, New Haven, March 10. Secretary, Dr. Charles A. Tuttle, 196 York St., New Haven.

CONNECTICUT Homeopathic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

CONNECTICUT Eclectic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. T. S. Hodge, 16 Main St., Torrington.

IOWA State Board of Medical Examiners, Capitol Building, Des Moines, March 10-12. Secretary, Dr. Louis A. Thomas, Des Moines.

MASSACHUSETTS Board of Registration in Medicine, Room 15, State House, Boston, March 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

MAINE Board of Registration of Medicine, State House, Augusta, March 17-18. (Note change of place from Portland.) Secretary, Dr. William J. Maybury, Saco.

Massachusetts Board Urges Amendment.

Massachusetts is one of the six states which allow non-graduates in medicine to take the examination for license to practice. In its report for 1907, the Massachusetts Board of Registration in Medicine urges an amendment to the medical practice act, requiring that every candidate for license shall be a graduate of a reputable medical college. The board clearly states that "one of the chief functions of the examining boards of the country is to uphold the medical college" and to help in "the creation of higher standards therein." Therefore, "only those who can successfully accomplish tests of high scientific work" in the medical college should be permitted to offer themselves as candidates for professional service.

Another strong argument is that some applicants, "simply from a superficial knowledge derived from medical compends, or by memorizing hand-books of answers to questions asked or likely to be asked by an examining board," may succeed in passing the usual written examination and "still be grossly unfit to assume the responsibilities of a physician." If graduation from a "reputable medical college" is required by law, the board will also be in position to protect its state from a number of medical colleges in the United States which have been found to be far from reputable.

Plea for One, Strong Medical College at Cincinnati.

President Charles W. Dabney of the University of Cincinnati, in his last annual report, takes a positive stand for higher standards of medical education. He calls attention to the progress of the science of medicine with the resultant demand for well-equipped laboratories, and for salaried teachers and investigators. He also points to the recent advances in standards by several medical colleges, whereby two or more years of university work are to be required for admission to medical study. The report continues:

"I would again urge the wisdom of providing in Cincinnati the best instruction in medical sciences in full accordance with these modern methods. All medical instruction given here at present is at the expense of the profession. The endowments and outside support are insignificant and have nearly all been given by the members of the profession. This is no more reasonable than if we were to require the present engineers to educate the future engineers, or the present teachers to educate their successors in the schools. The education of physicians is as much a public duty as the training of teachers or principals of schools. It is certainly unbusiness-like, not to say absurd, for the people of Cincinnati, to propose to dictate in matters pertaining to the medical colleges, not carried on exclusively at the expense of their professors and students, until they are prepared to provide them substantial support. What Cincinnati needs is not more medical colleges, but one great scientific institution of this modern type. It is perfectly apparent that such an institution can not be built and supported without endowments or some additional aid.

"As the first step towards this end, I recommend that this university begin by undertaking, as soon as the facilities can be provided, the scientific instruction of the first two years of the medical course in connection with its academic and scientific colleges. Provision could be made at a reasonable expense for this. At the close of this period the student could go to the regular professional college for his finishing course. A building, containing the required lecture rooms and laboratories and an appropriation of about $25,000 a year would enable us to make a beginning in this enterprise, which we should hope would in time grow into the complete modern medical school that Cincinnati so much needs."

To Prevent Impersonation at Examination.

To prevent the impersonation of a candidate by another individual at their examinations, the Iowa state board has recently adopted a ruling requiring that each applicant for license in Iowa, whether by examination or through reciprocity, shall file a recent photograph of himself with his application. Also, on the opening day of the examination each applicant will be required to hand in a photograph, which, after it has been identified, will be filed with the application. There have been cases in which impostors have made a business of passing examinations for other people for so much money. One of these individuals was heard to boast that he had passed the examinations in several states for different individuals. Such rulings as that adopted by the Iowa board will check this practice.

South Dakota Advances Preliminary Requirements.

Dr. H. E. McNutt, secretary of the South Dakota Board of Medical Examiners, reports that at the meeting of that board held Jan. 20, 1908, a resolution was adopted that after the year 1910, in addition to a four-year high school education, each candidate must have had at least one year's work in a college of liberal arts preliminary to the medical course, this year's work to include physics, chemistry, biology and modern languages. South Dakota is the fourth state to adopt this or higher requirements, the other states being Minnesota, Connecticut and North Dakota.

Iowa September and December Reports.

Dr. L. A. Thomas, secretary of the Iowa Board of Medical Examiners, reports the examinations at Des Moines, Sept. 17-19, and Dec. 10-12, 1907. The number of subjects examined in at these examinations was 8; total number of questions asked, 100; percentage required to pass, 75.

At the September examination 14 candidates passed and 11 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Atlanta Coll. of P. and S.	(1901)	79
Northwestern Univ. Med. School	(1907)	75, 80
Kentucky School of Med.	(1907)	75
Johns Hopkins Med. School	(1902)	78
University of Michigan	(1904)	84
Ensworth Central Med. Coll.	(1907)	75
Creighton Med. Coll.	(1907)	75, 76
New York Homeo. Med. Coll.	(1907)	77
Western University, London, Ontario	(1907)	76, 79, 85
University of Toronto, Canada	(1906)	77
FAILED.		
Illinois Med. Coll.	(1907)	68
Sioux City Coll. of Med.	(1907)	69, 73
Keokuk Med. Coll., College of P. and S.	(1904)	70
University of Iowa, College of Med.	(1907)	74.2
University of Iowa, Homeopathic Dept.	(1900)	66
Drake University	(1907)	68
Baltimore Med. Coll.	(1904)	71
Creighton Med. Coll.	(1906)	57
Western Pennsylvania Med. Coll.	(1905)	68
University of Naples, Italy	(1890)	69.3

At the December examination 9 candidates passed and 2 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Northwestern Univ. Med. Coll.	(1906)	89.2
University of Iowa	(1907)	76.5
Sioux City Coll. of Med.	(1907)	78.5, 79.5
Baltimore Med. Coll.	(1904)	78
Creighton Med. Coll.	(1907)	83
St. Louis University	(1906)	76.7
Western Pennsylvania Med. Coll.	(1905)	77.5
Jefferson Med. Coll.	(1907)	83.3
FAILED.		
Keokuk Med. Coll.	(1904)	72.7
College of P. and S., Kansas City, Kan.	(1901)	68.2

District of Columbia April, July and October Reports.

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the examinations at Washington, April July and October, 1907. The number of subjects examined in at these examinations was 16; total number of questions asked, 82; percentage required to pass, 75.

At the April examination 6 candidates passed and 11 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Georgetown University	(1906)	81.2
George Washington University	(1905) 85.1; (1906) 80.9,	—*
Howard University	(1906)	75.4
McGill University, Montreal	(1895)	83.1
FAILED.		
George Washington Univ., (1905) 47.8, 67.1, 72.7;	(1906)	70.4
Howard University	(1906)	50.6
Georgetown University, (1903) 69.7; (1905) 70.2;	(1906)	73
Baltimore Med. Coll.	(1900) 59.7; (1901)	73.2
University of Maryland	(1906)	51.2

* Percentage not given.

At the examination held in July the total number of candidates examined was 35, of whom 22 passed and 13 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Georgetown University	(1905) 77.4, 79.2; (1907)	87.1
George Washington University	(1906) 75; (1907) 77.3, 77.5, 78.2, 79.8, 83.7, 83.7, 86.7, 87.2, 87.6.	
Howard University	(1906) 79.1, 84.5; (1907)	84
Yale Medical School	(1904)	86.2
Baltimore Med. Coll.	(1901)	78.8
Boston University	(1907)	89.2
New York Homeopathic Med. Coll.	(1907)	97
Hahnemann Med. Coll., Philadelphia	(1907)	89.4, 93.7
FAILED.		
George Washington Univ.	(1906) 72.3, 72.6; (1907)	68.3, 72.3
Howard University	(1906) 67.5, 68.5, 71.9; (1907)	63.7, 73.2
Baltimore Med. Coll.	(1900)	63.1
Johns Hopkins Med. School	(1907)	†75.5
St. Louis Coll. of P. and S.	(1907)	73.2
Leonard Medical School	(1906)	65.2

† Failed in two branches to make necessary percentage of sixty.

At the examination held in October the total number of candidates examined was 33, of whom 25 passed and 8 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Howard University	(1905) (75.3; (1907)	90.2
Georgetown University	(1906) 78.4; (1907) 79.7, 80.5, 84.8, 88.6.	
George Washington University	(1905) 76.1, 80.7; (1906) 75.5; (1907) 76.3, 76.4, 77.4, 79, 80.3, 80.8, 81.6, 81.8, 84.6, 84.8, 87.3, 89.9.	
Johns Hopkins Med. School	(1900) 84.2; (1904)	79.4
University of Pennsylvania	(1902)	84.4
FAILED.		
National University, Washington	(1902)	59.2
Howard University	(1907)	72.5
George Washington University	(1905) 61.1; (1907) 71.2, 72.1, 72, 73.9.	
Baltimore Med. Coll.	(1907)	58

Ohio 1907 Reciprocity Report.

Dr. George H. Matson, secretary of the Ohio State Board of Medical Registration and Examination, reports the reciprocal licenses issued by that board during 1907. The following colleges were represented:

LICENSED THROUGH RECIPROCITY. College.	Year Grad.	Reciprocity with.
Howard University, Washington	(1902)	Dist. Colum.
Northwestern Univ. Med. School	(1905); (1907)	Illinois
Bennett Coll. of Ecl. Med. and Surg.	(1882)	Indiana
Bennett Coll. of Ecl. Med. and Surg.	(1906)	Illinois
Rush Med. Coll.	(1904); (2, 1906)	Illinois
Hering Med. Coll.	(1905)	Illinois
Hahnemann Med. Coll. and Hosp., Chicago	(1905)	Illinois
Coll. of P. and S., Chicago	(1904); (1905); (2, 1906)	Illinois
Central Coll. of P. and S., Indianapolis	(1905)	Indiana
Physio-Medical College of Indiana	(1904)	Indiana
Indiana Med. Coll.	(1906); (1907)	Indiana
Indiana University	(1907)	Indiana
College of P. and S., Keokuk	(1887); (2, 1898)	Iowa
Keokuk Med. Coll.	(1899)	Wisconsin
Kentucky School of Med.	(1904)	Nebraska
Medical School of Maine	(1901)	Maine
University of Maryland	(1900)	Maryland
Maryland Med. Coll.	(1901)	Maryland
Johns Hopkins Med. School	(1907)	Maryland
Univ. of Michigan	(1902) Maine; (1903); (2, 1904)	Michigan
Univ. of Michigan	(3, 1905); (1907)	Michigan
Michigan Coll. of Med. and Surg.	(1906)	Michigan
Detroit Coll. of Med.	(1903)	Michigan
St. Louis University	(1905)	Illinois
Ohio Med. University	(1907)	Michigan
Toledo Med. Coll.	(3, 1906)	Illinois
Eclectic Med. Inst., Cincinnati	(1875) Wisconsin; (1893) Indiana	(1907) Iowa
Jefferson Med. Coll.	(1905) New Jersey;	(1906) Illinois

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Requirements for Medical Legislation.

In the Kansas City *Medical Index-Lancet* for January appears an article on "State Medical Legislation" by Dr. A. H. Madry, which contains some statements that should be carefully considered. Dr. Madry says in part:

The medical profession stands responsible for the present lack of wholesome legislation. Too little thought has been given to the definite ends and aims of medicine and the means of their accomplishment. Lack of unity on the part of the medical profession has allowed quackery and charlatanism to develop. Dr. Kendrick of the Mississippi General Assembly lays down three conditions as essential to the passage of medical laws: 1, The medical profession must agree beforehand on what it wants; 2, its action must be endorsed by the medical organizations of the state. 3, individual members of the profession must personally inform senators and representatives regarding the needs and merits of the proposed law. It is more important at present for the organized profession, individually

and collectively, to study the laws we have and the laws we need than to study a new remedy or a new theory of some disease. The world will more nearly appreciate the high altruism and humanity of medicine when the profession shall have determined on and enacted into laws those conclusions which are for the public good. Secretiveness will not procure the legislation which is needed.

The opinion of Dr. Kendrick quoted above is particularly worthy of emphasis. Until physicians themselves agree on the essential points of desired legislation, it is practically useless to expect uniformity or stability in our medical legislation. To secure these results, careful, unprejudiced study of existing conditions, not from the standpoint of the physician, but from that of the public, as well as a broad-mindedness and a willingness to surrender previously conceived ideas and cherished convictions if necessary, is absolutely essential. Far too much of our legislation reflects the personal prejudices and opinions of the physicians who drafted it.

No law can be effective or permanent that is not based on a broad and accurate knowledge of underlying conditions and on careful and logical deductions therefrom. No law can be enforced that is not supported by the people. This means that our medical laws, if they are to be enforced, must be formulated only after the most careful and exhaustive study of conditions.

A Bureau of Publicity for County Societies.

At the meeting of the Philadelphia County Medical Society, Jan. 22, 1908, Dr. J. Madison Taylor read a paper entitled, "Wanted, a Medical Bureau of Publicity for County Societies," of which the following is an abstract:

The profession of medicine is essentially an educational agency. It is still held by its nobler traditions to a dignified position of reticence. Ethical principles, somewhat restricted and vague, obtain in essence. The question should be fairly met: do these ethical limitations accomplish the objects for which they were originally devised?

The central aim of the profession of medicine is radically different from that of all other professions. Only a few individuals fail to adhere to this aim. We stand pledged to use all the powers we possess and can acquire to prevent the conditions which make our calling necessary. A secondary purpose is to cure with the utmost promptitude the baneful effects of these causes. In short, while all business enterprises endeavor to increase demand, physicians strive to prevent, to check, its growth.

Not so with the purveyors of drugs, remedial agents, waters, various appliances, and lately special foods, *et id omne genus*. The watchword of these men is not only to supply all demands, but to create demand by legitimate or artificial means. They assume to teach us and to form opinions for the public. Here is a grave peril for which we are partly responsible. To correct this, we should aid in promulgating right conceptions of the advances in medical science by the use of the public press. On this arena, with the great body of thinking people as audience, must we win or lose.

It is necessary to meet modern conditions by adopting modern methods. All opponents to the purposes and efforts of the profession use the newspapers to attract public attention. Fakers, grafters, panderers to evil amusements, vendors of disguised poisons and all the disseminators of hurtful influences employ vast sums of money through press agents. The only way to combat these destructive agencies is for organized medical bodies to establish bureaus of publicity, safeguarded by competent committees, through which information, opinions and action may be accurately and systematically supplied to the papers. The public are made fully aware of every tempting method of doing themselves harm. We, as a profession, fail to exert the counter influence which ought to impress the consciousness of those who need our protection.

Bureaus of publicity should be established in connection with all county medical societies and reliable press agents should be retained. Many reasons can be adduced why this is essential to a correct presentation of facts bearing on medical science and on the best interests of the public. Among the most important of these is the fact that all those interests which are opposed to medical ethics employ press agents. With them, it is a question of business. Good business methods demand that the public be made acutely aware of the more attractive phases of the proposition offered. These fakers have for sale goods, advice, or whatever they wish to barter for money. The chief avenue of diffusion is the daily press, through the ordinary channels of advertisement or shrewdly placed news items. It is well known that the great nostrum venders expend many millions of dollars annually through the cooperation of professional press agents. These constitute bureaus of publicity for quackery. Few organized medical bodies spend any money for popular education, to "put the people wise" on questions which it is their desire and duty to have correctly understood. Yet a large and increasing group of irregulars do spend vast sums to mislead the unwary, thereby causing incalculable damage to morality and health.

Teaching mankind systematically and accurately how to know good from evil, right interpretations of current facts, advancements in scientific knowledge of hygiene, correct living and acting, should be the undivided purpose of the medical profession. The first step is to get the real facts known, to teach the people correctly what we are doing for their welfare, to furnish information which will advance the best interests of the race.

The form and character of such bureaus of publicity should be carefully formulated. Rules to govern methods, however, should be advised promptly and repeatedly until, by intelligent evolution, consonant with experience, they shall become perfected.

Dr. John G. Clark spoke of the plans of the Board of Public Education of the American Medical Association and said that efforts were being made to disseminate information on a large number of medical subjects through magazines, agricultural papers and other publications, and that such articles will probably be printed later in pamphlet form for distribution. If an epidemic of typhoid fever occurs, the infected district can be flooded with literature, calling attention to the necessity of pure water, the danger of typhoid fever, the means of avoiding it, etc.

Dr. A. B. Hirsh said that the proposition of Dr. Taylor to establish a committee on publicity should take practical form.

Dr. Jay F. Schamberg thought that publicity departments in connection with medical societies would result in a vast amount of good to the public.

Dr. C. A. E. Codman thought that the state society should have general control of all bureaus in the state through a committee working in connection with the committee of the American Medical Association.

Dr. Taylor said that all county societies should have such bureaus as a part of their working machinery. He was aware of the work of the board of public education and assumed that local bureaus would work in harmony with state bureaus, which would in turn cooperate with the Board of Public Education of the American Medical Association.

Societies Take Up Postgraduate Work.

The following societies have taken up postgraduate work in addition to those already given in THE JOURNAL:

New Castle County (Del.) Medical Society.
Fulton County (Ind.) Medical Society.
Jackson County (Ind.) Medical Society.
Jennings County (Ind.) Medical Society.
Madison County (Ind.) Medical Society.
Barton County (Kan.) Medical Society.
Montgomery County (Ky.) Medical Society.
Carroll County (Md.) Medical Society.
Berrien County (Mich.) Medical Society.
Hall County (Neb.) Medical Society.
Twin City Club (Urichville and Denison, Tuscarawas County, O.)
Oklahoma County (Okla.) Medical Society.
Belington Club (Barbour County, W. Va.)
Philippi Club (Barbour County, W. Va.)

Action by County Societies on Nostrums.

The following societies have adopted the Kentucky resolutions, regarding the use of nostrums by physicians:

Miami County (O.) Medical Society
Hall County (Neb.) Medical Society.
Clark County (Wis.) Medical Society.
Providence (R. I.) Medical Association.
Logan County (O.) Medical Society.
Essex (Mass.) North District Medical Society.
Medical Society of South Carolina (Charleston County).
Adair County (Mo.) Medical Society.
Humboldt County (Colo.) Medical Society.
Sebastian County (Ark.) Medical Society.

Dr. Allen J. Jervey, secretary of the Medical Society of South Carolina, writes that the following action was taken by that society:

Resolved, That we heartily endorse the Kentucky resolutions concerning the fight for pure drugs, which the American Medical Association has been carrying on so ably, and we recommend that the following or similar resolutions be submitted by this society to the House of Delegates of the South Carolina Medical Association:

Resolved, That the South Carolina Medical Association heartily endorses the formation of the Council on Pharmacy and Chemistry and pledges its zealous support in the earnest and able effort it is making to free the profession and the public from the evils of the nostrum habit.

Resolved, That in furtherance of this subject every county society in the state be requested to devote one meeting to this important subject, in order to increase the interests and secure the aid of every loyal practitioner in the state, and that the editors of the *Journal of the South Carolina Medical Association* be requested to omit from the advertising pages all pharmaceutical preparations which are not manufactured in conformity with the United States Pharmacopeia or the National Formulary, until they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association.

Resolved, That every physician in the state be urged to obtain a copy of the abridged United States Pharmacopeia and to be guided by it and by the approval of the Council on Pharmacy and Chemistry in his use of medicines.

Resolved, That the publication of medical journals by those interested in the manufacture of nostrums be condemned and that the physicians of the state be requested not to receive them.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.

BOWLING GREEN, KY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month.

FIFTH WEEKLY MEETING.

Fractures of Neck of Femur.

Pathology: At small part of neck. Infraction or incomplete fracture, portion of neck, displacement, impaction. Complete, subcapital fracture, lines of fracture, displacement, impaction, deformity. At base of neck, usually mixed, lines of fracture, impaction, displacement, rotation.

Symptoms: Pain, loss of function. Swelling, obliterated inguinal fold, ecchymosis. Outward rotation, causes and degree. Shortening, causes and degree. Muscular relaxation. False motion, spreading of trochanter.

Diagnosis: (1) Age, (2) sex, (3) force, (4) shortening, (5) crepitus, (6) eversion, (7) expansion of trochanter, (8) swelling, ecchymosis and tenderness.

Pott's Fracture.

Pathology: Fracture of inner malleolus, outer lower edge of tibia, fibula, laceration of internal lateral ligament, eversion of foot.

Prognosis: Age, compound fracture, delayed union and nonunion, edema, pain.

Treatment: Immediate dressing, plaster or gutter.

Colles' Fracture.

Pathology: Usual line of fracture, anterior ligament, backward displacement, impaction and crushing, stripping of periosteum, radio-ulnar ligaments, styloid of ulna. Injury to ligaments, synovial sacs, tendon sheaths.

Prognosis: Influence of age, peri-articular adhesions, reposition, condition of lower fragment, plane of articular surface.

Treatment: Accurate reduction, obstacles to overcome, method. Form of compress and splint required.

Book Notices

THINKING—FEELING—DOING. By E. W. Scripture, Ph.D., M.D., Assistant Neurologist, Columbia University. Second Revised Edition. Pp. 261. Cloth. New York: G. P. Putnam's Sons, 1907.

To one who has not kept in touch with the development of modern psychology with its accurate methods of measurement, this book will come as a surprise that so much definite knowledge can be gained by such simple means. It should be read by every medical practitioner and especially by all who wish to perfect themselves in habits of accurate observation and examination. To the neurologist, a knowledge of simple and accurate methods for testing nerve processes would be of great value. Much may be learned as well regarding our own thought processes. For instance, in the first chapter on observation and experiment, Dr. Scripture says: "To show that everybody is prejudiced, let me ask you such questions as: Have you not some pet fad on which you are sure you are right and all the rest of the town are wrong? Are you quite sure that there is only one side to the tariff question? Are you not astounded at the fact that some people find a good side to a man you know to be utterly bad? Don't be ashamed to confess. The great scientist Faraday did. He said: 'It is my firm opinion that no man can examine himself in the most common things having any reference to him personally without being made aware of the temptation to disbelieve contrary facts and the difficulty of opposing it.'" Probably one of the greatest dangers to which members of the medical profession are exposed is that of dogmatism and intolerance for the opinions of others.

The chapters on time and action, reaction time, thinking time, rhythmic action and power and will are most interesting. The discussion of the special senses, detailing the experiments used to determine the "threshold" of each is also of great interest to the physician. By the term "threshold" Dr. Scripture means the point at which the individual first begins to be aware, through the evidence of his senses, of the existence of the object used in the experiment. For instance, in carrying on experiments regarding smell, a graduated glass tube was used, inside of which was placed a narrow strip of blotting paper moistened with the solution used in making the test. A smaller tube was arranged to slide back and forth in the larger. From the end of the smaller tube a piece of rubber tubing led to the nose. As the smaller tube was gradually pushing into the larger, the person experimented on first perceived an odor but was not able to identify it. The point at which the odor was first distinguished indicated the threshold of perception of the individual's sense of smell. The point at which the odor was recognized as a distinctive odor indicated the threshold of recognition. In this connection Dr. Scripture records some very curious facts. If two different odors are conducted by separate tubes, one to each nostril, instead of smelling a combination of the two odors, he finds that we can smell either one alternately, but not both at the same time; also that we can smell either odor in preference to the other simply by thinking about it, but that we are unable to think of the same odor steadily, our thought irresistibly turning from one to the other and thus the two odors alternate.

In an equally simple manner, the psychology of the different senses is worked out. Feelings, attention, memory, suggestion and expectation are also considered. A very interesting chapter is devoted to materialism and spiritualism in psychology, while the final chapter discusses the new psychology. This book should be carefully read by every physician who desires to be familiar with the advances made in the study of the mind, which advances, in the last twenty-five years, have been quite as striking and epoch-making as the strides made in the more material lines of knowledge.

PRIMITIVE SECRET SOCIETIES. By Hutton Webster, Ph.D., Professor of Sociology and Anthropology in the University of Nebraska. Cloth. Pp. 227. Price, $2.00. New York: MacMillan Co., 1908.

One is liable to be misled by the title of this book and take it as a work bearing, at least indirectly, on present-day secret societies or fraternal orders. The adjective "primitive" in the title, however, is of more importance than "secret socie

ties," for the clans, bands or tribal organizations referred to are not all secret in character, and in scarcely any respect bear any relation to present-day secret societies. The work in reality is an exhaustive study of the organizations more or less secret in character that seem to have existed among nearly all primitive races, together with a description of the ceremonies connected with the initiation into these organizations. In some instances they were organizations to which only the chiefs or the older men could be admitted; in others—and these were the great majority—they were organizations to which all males were admitted who could pass the necessary ordeals. The ceremonial rites through which the boy or young man had to pass to be accepted to full tribal relations, were cruel and harsh to the extreme, and were made so, supposedly, to prove the novice's courage and right to assume full recognition. The book has required an immense amount of research, and will be of special interest and value to the anthropologist and to the student interested in the history and development of the savage and semicivilized races.

THE OPERATING ROOM AND THE PATIENT. By Russell S. Fowler, M.D., Professor of Surgery, Brooklyn Postgraduate Medical School, Brooklyn. Second Edition, Enlarged. Pp. 284. Cloth. Price, $2.00. Philadelphia: W. B. Saunders Co., 1907.

The appearance of a second edition of this book within such a short period is the best evidence of its popularity. The author gives a clear description of the essentials in the equipment of a surgical apartment of the modern hospital in a manner not covered by any of the ordinary text-books on surgery. It will prove a valuable adjunct in the instruction of operating-room nurses, and of surgical internes. It is to be regretted that no method of describing the use of dry sterile gloves is given. The preparation of the various suture materials is described in great detail. The postoperative treatment of patients is well considered, but this chapter lacks system and spacing. The chapter on "Postoperative Infection" is very thorough, considering the size of the book. No mention is made of pulmonary embolism as a cause of sudden death after operations. It would also be a good plan to warn against giving patients, on whom a laparotomy has been made, large quantities of fluids by mouth, on account of the danger of acute gastric dilatation. The book is completed by a very useful list of instruments to be used in various major operations.

LA PRATIQUE DE LA MÉDECINE. Par William Osler. Professeur Royal à l'Université d'Oxford. Traduction française sur la 6e Edition Par les Docteurs M. Salomon, Chef de Clinique à la Faculté et Louis Lazard, Ancient Interne de l'Hôpital de Rothschild. Paper. Two vols. Pp. 704 and 1224. Price $5.00. Paris: G. Steinheil, 1908.

Osler's Practice of Medicine is now so well known that the present French edition calls for little comment. It is worthy of remark, however, that the translators have done their part with a lucidity and an elegance of diction not unworthy of the original author. The essential qualities of the professor, which M. Pierre Marie claims for Professor Osler, are method, perfect clarity, an acutely critical sense, and a complete mastery of the subject. To the translator also these are essential qualities, and such browsings as we have been able to make in this French edition seem to indicate clearly that the present translators are not deficient therein. Since it is to be presumed that the fact of its production indicates a demand for a French version of this standard work it is a source of congratulation that not only the author's matter, but also in many essentials his style, is presented therein.

VARIATIONS OF THE BONES OF THE HAND AND FOOT. By Thomas Dwight, M.D., LL.D., Parkman Professor of Anatomy at Harvard Medical School. Pp. 101. Cloth. Price, $5.00. Philadelphia: J. B. Lippincott Co., 1907.

As the author states in his preface, "the constantly increasing use of the *x*-ray has shown that the study of variations is not a scientific fad, but a matter of great practical importance." Previous to the introduction of the Roentgen ray, the variations of the bones of the extremities were matters of purely scientific interest; to-day the interpretation of skiagraphs is a matter of the greatest practical importance. The author follows Pfistzner's classification, in the main. Anomalous bones, as well as sesamoids, are carefully considered, also pathologic fusion of contiguous bones. The work contains 36 plates, each containing two or more cuts, there being in all 79 illustrations comprising photographs of articulated and disarticulated bones, showing various aspects and conditions, as well as *x*-ray photographs. The book will be of value, not only to the anatomist, but to the surgeon and the orthopedic specialist as well.

DISEASES OF CHILDREN FOR NURSES, Including Infant Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M.D., Assistant Physician to the Medical Dispensary of the Hospital of the University of Pennsylvania. Pp. 431, with illustrations. Cloth. Price, $2.00. Philadelphia: W. B. Saunders Co., 1907.

This book consists practically of lectures delivered to the nurses of the Children's Hospital, Philadelphia. It commences with a description of the peculiarities of diseases of children and nursing of children, and the diseases of various parts of the body are then taken up in sequence. Tables with doses are given of drugs employed in the various diseases of children. The author makes the mistake of including in a list of unofficial drugs antipyrin, salol, sulphonal and trional. The book includes a list of poisons and antidotes, and a chapter on the treatment of emergencies which is practical. The language throughout is simple and terse; the illustrations are good.

Marriages

CHARLES W. JOHNSON, M.D., to Elizabeth B. Hayes, both of Litchfield, Ill., February 9.

GEORGE A. DE SANTOS SAXE, M.D., to Miss Laure Baer, both of New York City, February 20.

THOMAS J. MCGEARY, M.D., to Miss Rose A. McConnell, both of Jersey City, N. J., February 5.

ZACHARIAH G. JONES, M.D., Tongahoxie, Kan., to Miss Edna Mitchell of St. Joseph, Mo., January 6.

RICHARD H. WHALEN, M.D., to Miss Lizzie Inholt, both of Haverhill, Iowa, at Chicago, January 14.

PERCY E. HOFFMAN, M.D., to Mrs. Lucy MacBride Engel of St. Louis, at Louisiana, Mo., February 3.

FRANK WILMOT MORSE, M.D., Dayton, Maine, to Miss Lydia Miles Rice of South Sudbury, Mass., January 7.

HERMAN BENJAMIN BARUCH, M.D., New York City, to Miss Rosemary Emotez of Florence, Italy, February 5.

WILLIAM REED MCCALL, M.D., La Grange, Ga., to Miss Lillian Rosalie Taylor of Richmond, Va., February 5.

ANDREW J. OTTO, M.D., Greensburg, Pa., to Miss Margaret S. Wilson of Petersburg, Pa., at East Altoona, Pa., February 2.

Deaths

Mahlon J. Davis, M.D. New York University Medical College, New York City, 1862; acting assistant surgeon in the Army for one year, then assistant surgeon of the Second New York Volunteer Heavy Infantry, and late rsurgeon-in-chief of the New York Artillery Brigade of the Second Army Corps during the Civil War; postmaster of Lewis, Iowa, from 1869 to 1886; representative in the legislature from 1893 to 1895; who introduced the law prohibiting pharmacists from selling malt liquors, and also introduced and secured the passage of several bills regulating the practice of pharmacy; died at his home in Lewis, February 2, from edema of the lungs, following influenza, after an illness of a few days, aged 70.

John Connor Barron, M.D. College of Physicians and Surgeons in the City of New York, 1861; assistant surgeon of the Sixty-ninth New York Volunteer Infantry and Seventh New York Volunteer Infantry, and later division surgeon with the rank of colonel on the staff of Major-General Alexander Shaler during the Civil War; an enthusiastic yachtsman and ice yachtsman and hunter; one of the founders of the Union League Club, New York City, and at the time of his death president of the United New Jersey Railroad and Canal Company; died at his home in New York City, February 6, from typhoid fever, after an illness of four weeks, aged 70.

Frank Hazzard Dye, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1899; a member of the American Medical Association, Philadelphia Pathological Society and the Lehigh Valley Medical Association; interne in the

German Hospital from 1899 to 1903; chief of the out-patient department for diseases of women, German Hospital, and assistant surgeon to Stetson Hospital; died suddenly at his home in Philadelphia, February 3, from heart disease, aged 31.

John F. Head, M.D. Medical School of Harvard University, Boston, 1843; who was appointed assistant surgeon in the Army in 1846; made a captain and assistant surgeon in 1851; major and surgeon in 1860; was brevetted lieutenant colonel in 1865; promoted to lieutenant colonel in 1876, colonel in 1882 and retired by operation of law in 1885, and was made brigadier general, retired, in 1904; died February 5, at Nassau, Bahama Islands, aged 87.

John L. Handley, M.D. Jefferson Medical College, Philadelphia, 1858; a veteran of the Civil War; afterward a practitioner at Mount Erie, Ill.; circuit clerk of Wayne County and master in chancery; later superintendent of mails, and health officer of Denver, Colo., and for the last eleven years supreme vice-president of the Fraternal Union of America; died at his home in Denver, January 17, from appendicitis, after an illness of two days, aged 75.

Charles Worthington Goldsborough, M.D. University of Maryland School of Medicine, Baltimore, 1863; a member of the Medical and Chirurgical Faculty of Maryland and Frederick County Medical Society; a member of the board of directors of the Emergency Hospital and of the Board of Visitors of the Deaf and Dumb Asylum, Frederick City, Md.; died at his home in Walkersville, Md., February 6, from cerebral hemorrhage, aged 66.

Mary Wood-Allen, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1875; world's superintendent of the moral educational department of the Woman's Christian Temperance Union; for many years a resident of Ann Arbor, Mich.; died at a sanatorium in Washington, D. C., January 21, from pleuritic effusion and pulmonary edema, after an illness of nearly three months, aged 67.

Leo Danziger, M.D. Medical College of Ohio, Medical Department of University of Cincinnati, 1892; a prominent German practitioner of Cincinnati, and a member of the Ohio State and Hamilton County medical societies, aged 36, was shot and killed February 14 by the uncle of a patient on whom a criminal operation had been performed, and whom Dr. Danziger was afterward called to attend.

Charles Clifford Holcombe, M.D. Medical Institution of Yale College, New Haven, 1854; a member of the Massachusetts Medical Society, and once president of the Berkshire District Medical Society; first medical examiner of the middle Berkshire district; for several years president of the Lee National bank; died at his home in Lee, February 1, from heart disease, after a long illness, aged 78.

Lawrence Edward Holmes, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1897; a member of the medical societies of the State of North Carolina and Buncombe County Medical Society; for several years resident physician of the Clarence Baker Memorial Hospital, Biltmore; died at his home, February 5, from pneumonia, after an illness of six days, aged 34.

Carl G. A. Hullhorst, M.D. University of Iowa, College of Homeopathic Medicine, Iowa City, 1882; formerly a minister of the Presbyterian Church, and later a practitioner of Lincoln, Neb.; died at the State Hospital for the Insane, Lincoln, from injuries received by a plunge into a creek, near the hospital, while of unsound mind, February 6, aged 60.

Ridley C. Paine, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1884; a member of the Colorado State and Conejos County medical societies; formerly of Bethel, N. Y., and Antonita, Colo.; died at the home of his brother in Oneida, N. Y., February 2, from lung disease, after an illness of several years, aged 56.

John C. Brigham, M.D. University of Georgia, Medical Department, Augusta, 1869; a member of the Medical Association of Georgia and Burke County Medical Society; was burned to death while endeavoring to recover his medicine case and some valuable papers, in a fire that destroyed his home in Girard, Ga., January 30, aged 61.

Newton Diehl Baker, M.D. University of Maryland School of Medicine, Baltimore, 1868; a member of the West Virginia State Medical Association and Berkeley County Medical Society; a Confederate veteran and secretary of the State Board of Health of West Virginia for 15 years; died at his home in Martinsburg, February 4, aged 65.

William Henry Douglass, M.D. University of Missouri, Medical Department, Columbia, 1878; Bellevue Hospital Medical College, New York City, 1880; a member of the American Medical Association, and a prominent practitioner of Columbia, Mo.; died at his home in that city, January 28, from pneumonia, after a short illness, aged 53.

Henry Preston Sharp, M.D. Eclectic Medical Institute, Cincinnati, 1876; a member of the medical societies of the State of New York and County of Wyoming; coroner for many years of Wyoming County, and at one time president of the village of Arcade, N. Y.; died at his home, January 29, after an illness of one week, aged 53.

Charles Hamilton Morse, M.D. Medical School of Harvard University, Boston, 1864; a member of the Harvard Medical Alumni Association; for many years a practitioner of Weymouth, N. S.; died at his home in Marquette, Mich., February 3, from cerebral hemorrhage, after an illness of five months, aged 70.

Z. W. Wyatt, M.D. College of Physicians and Surgeons, Baltimore, 1884; a member of the West Virginia State Medical Association and Harrison County Medical Society; a member of the legislature in 1900 and 1901; died at his home in Shinnston, W. Va., January 31, after an illness of several weeks, aged 61.

Stacy Dwight Williamson, M.D. College of Medicine, Syracuse (N. Y.) University, 1901; a member of the American Medical Association; died at his home in Malone, N. Y., recently, from the effects of morphin supposed to have been self-administered, with suicidal intent, while temporarily insane, aged 31.

Charles A. Bolz, M.D. Albany (N. Y.) Medical College, 1883; a member of the Medical Society of the State of California and Sonoma County Medical Society; a hospital steward in the Army from 1872 to 1900; died at his home in Petaluma, Cal., from heart disease, February 2, after a long illness, aged 58.

Martin James Dalton, M.D. University of Vermont, College of Medicine, Burlington, 1898; of Melrose, Mass., a member of the Massachusetts and Middlesex District medical societies; visiting physician to the Melrose Hospital; died recently in Tryon, N. C., where he had gone for his health, aged 49.

Thomas C. Neat, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1863; a member of the Indiana State Medical Association and Floyd County Medical Society; died at his home in New Albany, Ind., February 1, from heart disease, after an illness of two days, aged 65.

Hannibal Parish Wheatley, M.D. University of Vermont, College of Medicine, Burlington, 1881; of Farmington, N. H.; a member of the New Hampshire and Stratford County medical societies, died suddenly in Los Angeles, Cal., from heart disease, January 29, aged 50.

George H. Fuller, M.D. Northwestern University Medical School, Chicago, 1869; a hospital steward and afterward lieutenant of the line during the Civil War; a member of the American Medical Association; died at his home in Delhi, Iowa, January 31, aged 66.

Buford D. Black, M.D. Rush Medical College, Chicago, 1897; a member of the American Medical Association; and one of the most prominent practitioners of New Mexico; died at his home in East Las Vegas, from pneumonia, February 6, after a brief illness, aged 33.

Clara E. Bowen, M.D. University of Buffalo (N. Y.) Medical Department, 1892; of Buffalo, N. Y.; a member of the medical societies of the State of New York and County of Erie; died at the German Hospital, Buffalo, after a surgical operation, Dec. 28, 1907, aged 47.

Beverly M. Beckman, M.D. University of Missouri, Medical Department, Columbia, 1850; one of the oldest practitioners of Shelby County, Ky.; died at his home in Shelbyville, February 1, from senile debility, after a gradual decline of several years, aged 82.

Benjamin F. Tiefenthaler, M.D. Medical Department of Columbian University, Washington, D. C., 1899; a member of the Medical Association of the District of Columbia; died at his home in Washington, February 8, from acute nephritis.

William J. Best, M.D. University of Maryland School of Medicine, Baltimore, 1856; a member of the Medical Society of Virginia and Frederick County Medical Society; died at his home in Brucetown, Va., February 5, aged 73.

William Dana Gross, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1886; died at his home in Philadelphia, February 8, from septicemia, due to an operation wound received three weeks before, aged 46.

Charles Chesterfield Richardson, M.D. University of Maryland School of Medicine, Baltimore, 1855; assistant health commissioner of Baltimore, from 1860 to 1861; died suddenly at his home in Baltimore, February 5, aged 78.

William Jean Krausi, M.D. Eclectic Medical College of the City of New York, 1890; supervisor, town clerk and collector of Bay Shore, Long Island; died at his home in Brooklyn, January 30, after a lingering illness, aged 48.

David Birkhoff, M.D. Rush Medical College, Chicago, 1891; a member of the Illinois State and Cook County medical societies, and a prominent member of the Holland Society; died at his home in Chicago, February 9, aged 51.

Fayette E. Schley, M.D. Albany (N. Y.) Medical College, 1881; a member of the medical societies of the State and County of New York; died at his home in New York City, February 8, from heart disease, aged 49.

Theodore W. Heuchling, M.D. University of Würzburg, Germany, 1864; physician of Cook County in 1890, and appointed U. S. Pension Examiner by President Cleveland; died at his home in Chicago, February 11, aged 67.

A. J. Redwine, M.D. University of Louisville (Ky.) Medical Department, 1895; once senator from the Twenty-fifth District of Arkansas; died at his home in Marshall, January 31, from cerebral hemorrhage, aged 52.

Francis S. Dunlap, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1861; died at his home in Delaware City, Del., January 26, from paralysis, after an illness of three years, aged 72.

Nelson Buell Sizer, M.D. New York University Medical College, New York City, 1871; a veteran of the Civil War; died at his home in Brooklyn, January 22, from the effects of an overdose of opium, aged 53.

Washington Green Tuck, M.D. University of Maryland School of Medicine, Baltimore, 1856; for many years postmaster of Annapolis, Md.; died at his home in that city, February 5, from erysipelas, aged 77.

Thomas McElwain, M.D. American Medical College, Eclectic, St. Louis, 1883; a member of the Kansas State and Pratt County medical societies; died at his home in Pratt, February 8, aged 46.

William Dwight Saxton, M.D., Northwestern University Medical College, Chicago, 1865; died at his home in Milwaukee, Wis., February 5, from heart disease, after an illness of six months, aged 70.

Grailly H. Hall, M.D. Cooper Medical College, San Francisco, 1893; died suddenly at his home in Randsburg, Cal., February 5, from the effects of a dose of poison, after an illness of twelve hours.

S. L. Brouillette, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1879; died at his home in Clay City, Ind., February 2, after a lingering illness, aged 65.

George Warren Betts, M.D. Jefferson Medical College, Philadelphia, 1906; of Ocean View, Del.; died suddenly from heart disease, February 6, in a sanatorium, at Atlanta, Ga., aged 25.

Oliver S. Wood, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1877; died at his home in Valparaiso, Ind., from dropsy, February 11, after an illness of two weeks.

Frederick G. Zenk, M.D. St. Louis Medical College, 1880; of Troy, Ill.; died at a hospital in St. Louis recently, after a surgical operation, and was buried February 4, aged 52.

Henry C. Morrison, M.D. University of Maryland School of Medicine, Baltimore, 1866; once an alderman of Kansas City, Mo.; died at his home February 7, from paralysis, aged 64.

Peter A. Allen, M.D. Eclectic Medical College of Philadelphia, 1862; died suddenly at his home in Cobleskill, N. Y., January 31, from cerebral hemorrhage, aged 69.

David Louis Cederholm, M.D. Long Island College Hospital, Brooklyn, N. Y., 1897; died at his home in Brooklyn, from an overdose of cocain, February 7, aged 45.

David Nowlan (License, Iowa), 1886; a pioneer practitioner of Havelock, Iowa, and of late years postmaster; died at his home in that place, February 2, aged 64.

Harvey Hubbell Smith, M.D. Miami Medical College, Cincinnati, 1892; died at his home in Dayton Pike, Sharonville, Ohio, February 3, from pneumonia, aged 49.

Henry A. Klock, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1878; died suddenly at his home in Mahanoy City, Pa., February 1, aged 64.

Augustus N. French, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1871; died suddenly at his home in Norway, Maine, January 30, aged 63.

Allen Dexter Hammond, M.D. Boston University School of Medicine, 1893; died January 27, at his home in Brockton, Mass., from heart disease, aged 36.

Samuel R. Millard, M.D. Cincinnati College of Medicine and Surgery, 1862; died at his home in Chicago, February 1, after an illness of one day, aged 92.

George Monroe Proctor, M.D. University of Buffalo (N. Y.) Medical Department, 1867; died at his home in Shalersville, Ohio, February 3, aged 69.

Benjamin F. Manlove, M.D. Medical Department, University of Nashville, Tenn., 1868; of Nashville; died in that city, February 1, aged 68.

John W. Tripp, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1869; of Simcoe, Ont.; died Nov. 25, 1907, aged 69.

Frederick Bechtler, M.D. College of Physicians and Surgeons, St. Louis, Mo., 1905; died recently at his home in St. Louis, aged 38.

Clarence H. Clewell, M.D. Jefferson Medical College, Philadelphia, 1894; died at his home in Philadelphia, Dec. 18, 1907.

John Leo Smart, M.D. Medico-Chirurgical College of Philadelphia, 1905; died at his home in Philadelphia, Dec. 16, 1907.

Mrs. R. S. Scott, M.D. California Medical College, San Francisco, 1897; died at her home in Laton, Cal., February 2.

William Mislap, M.D. University of Vienna, Austria, 1876; died at his home in Chicago, February 6, aged 80.

John H. Yanaway (Years of Practice, Ill.) 1877; died at his home in Toledo, Ill., January 24, aged about 80.

William O. Kenyon (License, Wis., 1899); died January 31, at his home in Appleton, Wis., aged 62.

Society Proceedings

COMING MEETINGS.

Association of American Medical Colleges, Cleveland, March 16-17.
Medical Society of the Missouri Valley, Lincoln, Neb., March 19-20.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Jan. 8, 1908.

The President, DR. JAMES B. WALKER, in the Chair.

SYMPOSIUM ON AN INEBRIATE HOSPITAL FOR THE STATE OF PENNSYLVANIA.

MR. ROBERT A. WOODS, president of the board of trustees of the Foxboro (Mass.) Inebriate Hospital, presented the work of the hospital at Foxboro. He finds, as a social worker, that the most optimistic class of men are physicians. He believes that drunkenness must be regarded as a community problem. In Boston, where the law requires the arrest of every drunkard on the streets, the annual expense of such arrests is $210,000, and the annual cost of maintenance of those arrested, $316,000. Of the 25,000 persons arrested annually, 43 per cent. are first offenders. The Foxboro Hospital has been in existence for sixteen years, and during fifteen years the juvenile arrests have been reduced one-half. In meeting the need of the hopeful cases, the hospital fills a place not hitherto occupied. In cases of straight drunkenness, in which fine and imprisonment have failed to have any effect, the inclination of the courts is more and more to send such cases to Foxboro. A man can be committed without any sort of criminal stigma, but it is difficult to get only the proper type of men such as the hospital can relieve. There should be a clearly marked line in the progress of inebriety beyond which no man should be sent to the institution. The inmates are called patients and the effort is made to create a hopeful atmosphere. There is a certain amount of drug treatment of the very acute cases of inebriety. The men who are especially difficult to manage are put into a cottage which is kept closed all the time. Most of the patients, however, have the freedom of the grounds. Every one is supposed to do eight hours work a day, which includes one hour in the gymnasium. The work is that of caring for the institution and farm labor. There is a good equipment of baths, and the problem of diet is carefully looked after. Much importance is attached to intellectual, moral and religious stimulus, and the belief is expressed that a man must go into

the work with keen intellectual and moral zest to accomplish results. Of 230 cases of men who had been away from the hospital from 4 to 16 months, it was found that 93 were temperate at the time visited, 37 showed distinct improvement, 55 presented no improvement, 37 were not found, and 8 were dead. Other interesting figures are shown, and it seems fair to estimate an improvement of 50 per cent.

DR. JOHN B. CARRELL, of Hatboro, referred to the drink habit as the direct cause of mental deterioration manifesting itself in disease, insanity, pauperism and crime. With such a hospital, the inebriate could be removed from his dangerous environment and other efforts made to reclaim him. It was said that the law should regard inebriety as a disease, either inherited or acquired, not as a crime, for an exact study would show inebriety to be preventable and as possible of being diminished or cured as any other affliction. The object of the inebriate hospital was shown to be two-fold: To rid the community of dangerous, destructive and unprofitable citizens; and, to convert them, if possible, into self-supporting and valuable citizens. Dr. Carrell dwelt on the necessity of the institution, the percentage of cures expected, the most fruitful causes for the development of alcoholism, what should constitute the condition for the commitment in an inebriate hospital, what the institution should be, length of commitment, and how the hospital should be provided for.

HON. HENRY F. WALTON spoke at length of his interest in the project and of his investigation of the care of the insane. He feels that the management of the medical side of these institutions should be made by law to come into closer contact with the medical faculties connected with the colleges of the state, since there are special cases which should receive special treatment, and a need for the raising of the standard of treatment and housing.

DR. CHARLES K. MILLS advocated the movement for a separate hospital for inebriates, and emphasized the importance of the enactment of a better law than at present obtains in regard to the commitment of a patient to such an institution.

MR. TALCOTT WILLIAMS believes that the inebriate hospital is necessary to the cure of alcoholics, but that the present commitment law is wholly without the ability to deal with such cases in their incipiency. The French law is better in that it permits of the commitment of a person for restraint and treatment for a period. Without some such provision of law, he believes there is absolutely no way of ascertaining the possible percentage of cures of inebriety. An adequate law would provide for commitment by a magistrate, or the relinquishment of personal liberty for an indeterminate period. In proof of the statement that the drinking of alcoholic liquors is a decreasing evil, Mr. Williams referred to the fact that the reports of the University Club of New York City showed that in a period of twenty years the expenditures of the club for liquors had increased only one-half as fast as the membership.

Regarding the question of expense, attention was called to the fact that while Pennsylvania collects approximately five million dollars from licenses, New York collects something like eighteen million. This is because the State of New York has not made the fatal mistake of making the license low over the rural, mining and agricultural sections. An increased license in Pennsylvania would provide hospitals throughout the commonwealth. As to the willingness of the legislature to respond to the plea for a state hospital for inebriates, it is Mr. Williams' experience to find American legislators anxious to do the best they knew how on a social question presented with enthusiastic determination.

DR. F. X. DERCUM said that there were many facts to prove that the inebriate is a sick man, that often he is sick by heredity, and that he falls a victim because of pathologic changes. In other cases the habit is acquired by the abuse of the appetite. While he advocates the establishment of a state hospital, he feels especially the need of a law whereby when a man shows his first failure he can be protected against himself. Such a law should be free from any mawkish weak spot in regard to personal liberty.

MR. JOSEPH GRAHAM said he had not the slightest belief that inebriety is any more a disease than any other common human weakness. He believes it to be nothing more than a nerve habit. An ideal step, he said, would be to consider not only the drunkard, but the drinker, a criminal, and punish him accordingly. While this might not be practicable, any consideration of the subject should adhere as closely as possible to the ideal.

MR. ESTERBROOK, speaking from the standpoint of the social workers of Philadelphia, emphasized the need of a special institution for the treatment and care of inebriates. He feels that little will be accomplished, however, without the aid of an intelligent probation inspector working in connection with the hospital.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany, Jan. 27-30, 1908.

(*Continued from page 559.*)

Pancreatitis Resulting from Gallstone Disease.

DR. WILLIAM J. MAYO, Rochester, Minn., said that in 2,200 operations on the gall bladder and biliary passages, the pancreas was coincidentally affected 141 times. As the total of all pancreatic diseases operated on was but 168, 81 per cent. were due to or accompanied by gallstones. In 268 operations on the common and hepatic ducts, the pancreas showed disease in 18.6 per cent., against 4.45 per cent. where the gall bladder only was involved. In 124 cases the head of the pancreas showed evidence of inflammation, while in but 17 was the entire organ affected. Three were cases of acute pancreatitis, 9 subacute and 129 chronic.

Duodenal and Gastric Ulcers.

DR. ALBERT J. OCHSNER, Chicago, said that traumatism from within is the chief causative factor in the production of gastric ulcer. The vast majority of cases occur in the pyloric end of the stomach. Duodenal ulcer is often due to extension of a gastric ulcer. Duodenal ulcer may be caused by severe burns of the skin and by thrombosis of the vessels supplying the duodenum. The digestive apparatus should not needlessly be interfered with surgically, for it is often possible to restore these organs to proper condition by careful attention to dietetic, medicinal, hygienic and other measures. It is important to give dietetic and hygienic instructions to patients to avoid recurrences. There are cases, however, in which cure is impossible and the earlier surgical measures are resorted to in these cases the better. At the beginning of an attack it is not always possible to differentiate the classes of cases requiring operation from those that would heal of themselves. Induration of the ulcer at the pyloric end often causes obstruction, and this results in retention of the food and the absorption of the products of decomposition, which accounts for the cachexia which is present. This explains the favorable results attained by gastric lavage. There is no operation in the field of surgery in which there are so many failures as this particular operation. In order to reduce mortality the following principles should be observed: The amount of traumatism must be reduced; the intra-abdominal organs should be exposed as little as possible; the patient must be placed in the sitting posture as soon as possible after operation; if perforations are closed the sutures should be placed so as not to result in obstruction from contraction; if neoplasms are enucleated, tissues closely connected by lymphatics must be removed; in gastroenterostomy the lowest portion of the stomach should be chosen; there should be no tension on the sutures; the coronary artery should be preserved, except in complete gastrectomy; in acute gastric dilatation the stomach tube should be introduced and gastric lavage done. Patients should be controlled for a long time after operation as regards hygiene and diet.

Surgery of Liver and Gall Bladder.

DR. JOHN C. MUNRO, Boston, considered the more vexatious problems in connection with surgical diseases of the liver. There are cases that can not be diagnosticated without opera-

tion and even require a microscopic examination in order to confirm a diagnosis. In non-operative cases a syphilitic history is an important factor. Ascites is said, by some authors, to be present in all cases, but jaundice is not common nor severe. Symptoms of gumma of the liver may be entirely wanting or they may be such as seem to threaten life. Cancer may be excluded because it is rarely primary in the liver. Calcium salts may be used with advantage in case of hemorrhage of the severe type. Patients operated on for stones may return because of the reformation of calculi. Recurrences are more often met with when the stones form in the hepatic or common duct. It is well to drain the common duct.

Non-parasitic Cysts of Liver and Congenital Cystic Liver.

DR. WILLIS G. MACDONALD, Albany, related the history of three cases: 1. Cystic degeneration of the liver and kidneys associated with ascites. From a man, 34 years old, treated for cirrhosis of liver, 6,500 c.c. of fluid the consistency of water were removed from a large tumor of the liver. Two large drains were introduced and sutured to the top and the bottom of the wound. In addition to the large cyst which involved both lobes of the liver there were numerous smaller ones ranging from the size of a walnut to that of an orange. The man died of suppression of urine the result of sudden sepsis. At autopsy multilocular cysts were found in the kidneys. The liver weighed fourteen pounds and was two-thirds made up of cysts. 2. Multilocular cyst of liver. Woman, 67 years old, with large hepatic tumor. The contents of the tumor was pure mucin in solution. The peritoneum was sewed to the walls of the sac and the anterior wall of the sac was freely opened. This patient was drained for two weeks and discharged from the hospital. At the end of four months the wound had healed. There were no hooklets found in this case. 3. Acute infection. Local peritonitis simulating an inflamed gall bladder. An oblong tumor was found which rested on the crest of the ilium. The gall bladder was found to be normal. The tumor was 16 cm. long, 7 cm. wide and 6 or 7 cm. across. It was universally adherent to the peritoneum, the mesentery and the omentum, and could be enucleated only with great difficulty. The patient was in the hospital but a few days. There were no morphologic evidences of hydatids found in this case.

The Gastric Neuroses.

DR. DUDLEY D. ROBERTS, Brooklyn, said that the careful examination of the literature of the day shows very clearly that there is already a tendency to conceive neurotic disturbances as primary diseases rather than as symptoms having a varied causation. Neuroses are the resultants of three forces or circumstances: 1. Irritant circumstances that generated an impulse abnormal in kind and intensity. 2. The status of the individual's nervous system, its inherent metabolic state and capacity for normal functioning. 3. The individual mind, the peculiar mental habits, the states of consciousness and their effect on physical processes. The irritation gastric neuroses he divided into the direct and the reflex. The direct arise as the result of the ingestion of substances which act, as a chemical, thermal or mechanical irritant to the gastric mucosa, but do not produce inflammatory changes. It is probably the result of over-functioning. Temporary eyestrain is a frequent cause of gastric neuroses. Functional disturbances of the bowels are commonly attended with stomach complaint and demonstrable disturbances. Under the nutritional gastric neuroses he included those neuroses which seem to be dependent on abnormality of the physical nervous system. There may be derangement of its nutrition, or deficient absorption of food and excessive expenditure of energy in the form of muscular or nervous work, and also the result of abnormal katabolism.

Diagnosis and Treatment of Gastric Ulcer.

DR. DELANCEY ROCHESTER, Buffalo, advised operation when there is perforation or uncontrollable vomiting. Diagnosis is often impossible. The symptoms and signs are localized pain, burning or boring in character, increased by the ingestion of coarse-fibered foods. There is vomiting, with the vomit acid in reaction and containing blood. Blood is also found in the stools. Localized tenderness in the epigastrium is present. The treatment is rest for the stomach, both functional and mental. For this purpose atropin and morphin may be used. Food should be withheld and cold applied to the epigastrium. The etiology of each case should be learned, if possible, in order that the underlying etiologic factors may be treated. Adrenalin chlorid solution is useful and also subgallate of bismuth suspended in milk of magnesia. Rectal feeding is not advisable, as it excites a flow of gastric juice. Food should be withheld for from twenty-four to forty-eight hours. When feeding is begun the food should be selected carefully.

DISCUSSION.

DR. CHARLES G. STOCKTON, Buffalo, was of the opinion that pancreatitis is much more common than is generally supposed. He thinks that operation is done not so much for the relief of gastric ulcer as it is for the results of the gastric ulcer. It is not a question of drainage. One should not overlook the motor function of the stomach, and one should realize the importance of spasm in the disease. He has much confidence in the stomach tube if it is used with care and skill.

DR. A. JACOBI, New York, said that neuroses of the stomach meant exhaustion. The fact that pain is mitigated by eating, only to return after a few hours, is not only of diagnostic but also of practical importance. When the disease comes on two or three hours after eating it means disease of the colon. In cases of gastric ulcer the physician should see to it that the stomach is alkaline. Milk all the time, together with stale bread, is the best treatment.

DR. L. DUNCAN BULKLEY related a case in which fear of operation stopped gastric digestion.

Clinical Observations on Vaccines.

DR. JOSHUA VAN COTT, Brooklyn, reported ten cases in which he had employed opsonic therapy. He was of the opinion that the majority of these patients would have died had the vaccines not been administered. These vaccines ought to be manufactured so that this class of patients can receive treatment.

Value of the Opsonic Index in Controlling the Use of Vaccines.

DR. WILLIAM H. PARK, New York, said that he thought Dr. Wright's work would induce physicians to make more frequent use of opsonins but that it would probably take years before we know of what value the opsonic index is as an indication in the treatment of disease. He spoke of the difficulties encountered in the laboratory work, especially the individual peculiarities. There is a difference of from 10 to 15 per cent. in different individuals who are in good condition. The irregularity with which the leucocytes take up the bacilli is another difficulty encountered. Different cultures also give wide variations. Eating, drinking, taking cold, raised or lowered the opsonic index. There is a very great variation in disease. While no doubt many of the patients do better with the vaccines than though they had not received them, the opsonic index is not absolutely necessary in controlling the use of vaccines.

DR. WILLIAM H. WOGLOM, Brooklyn, described the technic used in determining the opsonic index.

Two Cases Treated by Vaccines.

DR. ALGERNON T. BRISTOW, Brooklyn, said that in drawing conclusions we should not be led astray either by a few failures or a few successes. He reported two cases of streptococcic infection, in one of which the organism was recovered, not from the blood, but from a deep abscess of the neck which was secondary to what appeared to be an attack of Pfeiffer's glandular fever, occurring in the epidemic in New York last winter. The second case was one of malignant endocarditis, in which the *Streptococcus longus* was recovered from the blood. There was no suppuration in the body whatever, so far as was discoverable.

Treatment and Prognosis of Suppurative Cystitis.

DR. VICTOR C. PEDERSEN, New York, considered only chronic cystitis. If the membrane has not been deeply damaged and the cause is removed recovery may take place. The extent of impaired membrane is revealed by the cystoscope and many causes may be removed by dividing strictures or dilating them, by removing calculi, reducing hypertrophy of the pros-

tate, or removing the gland. Chronic cystitis, when associated with disease or injuries of the spinal cord, can not be cured. Tuberculous or cancerous cystitis can not be cured. Hygienic measures, stimulants, hydrochloric acid, pepsin or pancreatin are all of value. Turkish baths and washing of the bowels are also good. All diseases, especially of the heart, should receive attention. Fatigue should be guarded against, and climatic influence should not be forgotten. He is in favor of diluting, antiseptisizing and acidifying the urine. Copaiba, sandalwood and oil of gaultheria alone or combined are helpful. Irrigations, instillations and drainage by catheter have a place in treatment. The bladder should not be distended forcibly. The hand syringe is preferable for this purpose. Normal saline solutions, sodium carbonate or even sterile water solutions may be used until the fluid that returns is clear. The amount given should be measured and no pain should be occasioned. A bladder with a large amount of residual urine may hold from eight to ten ounces without distension. A small amount of the solution should be left in, and the strength of the solution increased gradually. One irrigation daily is usually sufficient. Operative work is to be considered when local and constitutional measures fail. A cystoscopic examination should be made before giving a prognosis.

Operation in Malignant Disease of Skin.

DR. SAMUEL SHERWELL, Brooklyn, recommends simple deep and thorough curettage, followed by the immediate and thorough application of an escharotic. He prefers 60 per cent. solution of acid nitrate of mercury. The caustic agent must be neutralized by some alkali, as sodium bicarbonate. The scab is allowed to remain until it falls off. The knife is sometimes preferable in pendant and loose portions of the body, as the penis, lips and ears. He has employed this method for thirty-five years, and has had very few recurrences. In cases where general anesthesia is necessary, he prefers nitrous oxid. He introduces two or three drops of a 2 per cent. solution of cocain about the edges of the affected part, and gives one-quarter to one-third grain of morphin, with or without atropin, in a distant part of the body before giving the general anesthetic. He used a Paquelin cautery and a solution of one part of fluid adrenalin and three parts of a 10 per cent. solution of cocain to check persistent bleeding. This he follows by acid nitrate of mercury in full 60 per cent. strength, mopped on with cotton wool mops. He sometimes allows the acid nitrate of silver to remain ten to twenty minutes before neutralizing. The bicarbonate of soda should be firmly pressed into the wound so as to make an adherent scab. The wound is kept dry, but no bandages are used. After a day or two inflammation follows, but no wet dressing must be used as the inflammation soon subsides. He is of the opinion that fewer recurrences resulted after this method than when the knife is used. A course of arsenic treatment is given for a long time after the operation. Relapses occurred in less than 10 per cent. of his cases.

What the Rigid Inspection of Milk Is Doing for New York City.

MR. WILLIAM E. BURTON, New York, in charge of dairy inspection, department of health, said the milk supply of the city is obtained from Vermont, Massachusetts, Connecticut, New York, New Jersey and Pennsylvania, being brought into the city by ten different railroads. The farthest point from which milk is brought is 415 miles. The trains arrive late in the evening and milk is removed early the following morning. About one and three-quarters million quarts are used daily, and about 50 per cent. of this is in bottles. Milk could not be sold without a board of health permit. Prior to 1904, the efforts of inspectors had been almost entirely directed toward securing a chemically pure milk supply, but no systematic method was followed. In 1904 two inspectors were detailed to inspect all places where milk was handled and to report on abuses. Such abuses were found at one creamery in Orange County as led to the revocation of the permit of the company. Since this experience, official trips have been made over the large milk carrying roads. New regulations have been adopted by the board of health, built on the word "cleanliness." They require sanitary buildings for the housing of cattle, a pure water supply, proper facilities for cooling the milk and preventing its exposure to air as much as possible. No person suffering from a contagious disease or in attendance on one is permitted to handle milk or utensils. In June, 1906, the systematic inspection of dairies was commenced, and regulations were adopted covering the care of cows, stables, water supply, milkers and utensils. All cattle must be examined by a veterinary, and a report filed with the health department. The regulations now in force could not be considered oppressive and were necessary to surround the production of milk with due precautions. If inspection shows unsatisfactory conditions, the dairyman is given a reasonable time to make necessary improvements; if the conditions are bad, the time is shortened. If the improvements are not made, the milk from such a dairy is refused entrance into the city. It is the duty of the physician to report all cases of typhoid fever, and if, by exclusion, the milk is found to be responsible, a thorough inspection is made. On March 13, 1907, resolutions were adopted requiring creameries to furnish a report to the health department stating the existence or non-existence of typhoid fever, tuberculosis, scarlet fever, diphtheria, dysentery or any other infectious disease in the households of all persons employed in collecting or handling the milk, and milk stations must require similar reports from their sources of supply. Considerable opposition had been met with, and it is a question whether this regulation can be enforced without a branch of medical inspectors to control this work. Last year a section was added to the sanitary code requiring all persons to clean milk receptacles used in the delivery of milk immediately on being emptied. The enforcement of this section has done much toward assisting in the preparation of clean milk.

(To be continued.)

Medicolegal

Railroad Companies Not Liable for Wrongful Mutilation by Surgeon.

The Court of Appeals of Georgia, in Louisville & Nashville Railroad Company and others vs. Blackmon, says that a surgeon, being sent by two railway companies to a wreck to give professional attention to an engineer who had been injured, caused him to be moved to a hospital, where he soon died. After the death had occurred he ordered the body carried to an undertaker's establishment, and there he and the undertaker, without the consent of relatives, mutilated the corpse. Under the allegations in the case there could be no question as to the liability of the surgeon and undertaker, who participated in the alleged mutilation. The question was: Were the two railroad defendants liable for the acts of their surgeon who committed the mutilation of the body? The court holds that they were not.

Conceding that a surgeon of a railway company is such a servant as to be within the purview of section 3817 of the Civil Code of Georgia of 1895, which provides that "every person shall be liable for the torts committed by his . . . servant by his command, or in the prosecution and within the scope of his business, whether the same be by negligence or voluntary," still the court can not hold that the tort (wrong) complained of here was within the scope of the business for which the servant was employed. Whether the railway companies furnished surgical attention to the engineer for the purpose of diminishing the effect of an injury for which they apprehended they might be held liable, or as a mere gratuity, the business entrusted to the surgeon was that of ministering to a living man; and, when death had rendered all further ministration unavailing, the duty and business with which he had been entrusted by the railway companies were at an end. Certainly the limit to the scope of his authority was reached when he had closed the dead eyelids down, and had delivered the body to him to whom next in natural order the corpse should go—the undertaker. A case might arise in which a railroad company would be liable for the mutilation of a dead

body by a surgeon; as when, for the purpose of obtaining evidence or for other reason, it directed an autopsy to be made. Such was not here alleged to be the case. The mere allegation that the person committing the tort was agent and surgeon at the time did not render any the less necessary the statement of facts showing that the act was by command of the employer or within the scope of the employment.

Compensation for Postmortem and by Whom Fixed.

The Supreme Court of Wisconsin says that the plaintiff in the case of Quigg vs. Monroe County filed a bill for "postmortem of the body of James Decorah, opening of abdominal, thoracic and cranial cavities, also removing cervical vertebræ from the body and preparing same for examination, by order of the jurors and assistant district attorney, $50." The county board allowed the bill at $10, from which decision the plaintiff appealed to the Circuit Court. The Circuit Court allowed it at $50, with interest from date of filing. Then the county appealed.

Section 4870 of the Wisconsin Statutes of 1898 provides: "Such physicians and surgeons so subpenaed shall, instead of witness fees, receive such reasonable compensation as may be allowed by the county board of supervisors, provided that such additional compensation shall not be less than $5 for each examination." It was claimed that this section vests in the county board power to fix the fee, subject only to the limitation of $5. But the Supreme Court, which affirms the judgment of the court below, holds otherwise.

It seems, the Supreme Court says, that the legislature had in mind that the physicians and surgeons so subpenaed should be paid reasonable compensation for their services in lieu of witness' fees, which under the former statute they received. True, the legislature provided that such reasonable compensation shall be allowed by the county board. But did the legislature mean that the county board might fix the compensation for the services at an unreasonable amount, and such allowance be not subject to review? If so, then the phrase "such reasonable compensation" is surplussage and without effect in the statute. The court can not think that the legislature had any such purpose in mind, but, on the contrary, intended what the ordinary meaning of the words import, namely, that the physicians and surgeons performing such services should receive reasonable compensation for their services. Nor can the court see any sound reason for a different construction. To require the performance of such services for such compensation as the county board might allow, though one-half or one-third what such services were reasonably worth, would seem to be out of harmony with the letter and spirit of the statute.

Moreover, section 638 of the Statutes of 1898, providing for an appeal to the Circuit Court from the disallowance in whole or in part of any claim by the county board, seems clearly to cover this case. If so, then no reason is perceived why a person appealing in such a case should not be entitled to a review the same as in any other appeal from the decision of the county board. The court thinks the appeal provided for bringing the whole matter before the Circuit Court for review and determination unhampered by the determination of the county board.

It appeared from the findings that an inquest was being held when such postmortem examination was performed by the plaintiff, and, in the absence of objection or showing to the contrary, it must be presumed that the inquest was being lawfully held. It also appeared from the findings that the plaintiff was subpenaed and ordered to perform the postmortem. The statute (section 4870) imposes on the justice the duty to subpena one or more competent physicians or surgeons, and having subpenaed the plaintiff to perform the operation, and there being no objection to the competency of such physician in the lower court, it must be presumed here that he was competent.

Effect on Neurasthenia of Pendency of Lawsuit Not Considered.

The Supreme Court of Minnesota met, in the personal injury case of Ahern vs. Minneapolis Street Railway Company, the question of whether it should not be proper in a suit of this kind, where neurasthenia is claimed to exist, to show the effect of the existence and pendency of a lawsuit on the prognosis of the disease, so that the jury may take into consideration how much of the trouble is liable to disappear or become ameliorated on the termination of the suit. But even if it be conceded that the purpose was to show that the pendency of a lawsuit (to recover damages for the injuries which caused the disease) would aggravate the neurasthenia, the court is nevertheless of the opinion that the exclusion of evidence of this kind was not error of which the defendant could complain. It is clear that if a party is injured by the neglect of another, and it is necessary to begin and maintain a suit to recover damages for the injury, and the pendency of the action aggravates the consequences of the injury, the aggravation is not due to any neglect or misconduct of the plaintiff, but that it is an incident to the prosecution of his remedy which is made necessary by the defendant's refusal to settle the case without suit. If either party could claim anything on account of such aggravation it would be the plaintiff; but it can not avail either party. While it is true that worry aggravates the condition of a person suffering from a disease of the nerves, and that joy favorably affects it, yet an inquiry as to just how much the trial of a personal injury action aggravates the plaintiff's condition, or how much a liberal verdict would mitigate it, in the court's opinion, involves too much doubt and uncertainty for the practical administration of justice.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

February 8.

1 *Blood Reactions of Inflammation and the Diagnostic Prevention of Terminal Stages of Infections of the Appendix and Gall Bladder. E. E. Smith, New York.
2 *Diagnostic Prevention of Terminal Stages of Infections of the Appendix and Gall Bladder. W. A. Bartlett, New York.
3 *Stricture of the Eustachian Tube with Its Baneful Consequences Traced to Adhesions in the Fossa of Rosenmüller. W. S. Bryant, New York.
4 Organic Factor in High Blood Pressure. A. Haig, London, England.
5 *Incipiency in Tuberculosis from the Standpoint of the Sanatoria. The Safety and Value of the Tuberculin Test When Safeguarded Solely by the Clinical Method. H. B. Dunham, Glen Gardner, N. J.
6 Benjamin Rush as a Phthisiotherapist. H. F. Stoll, Hartford, Conn.
7 Misuse of the Voice and Its Cure. Vocal Muscles and Resonance. N. J. P. Van Baggen, The Hague, Holland.
8 *Favorable Influence of Small Doses of Arsenic and Bichlorid of Mercury in Three Cases of Exophthalmic Goiter. L. Weber, New York.

1. **Blood Reactions of Inflammation.**—Smith details the blood changes to be found during active inflammatory processes, namely, the absolute number of leucocytes; the relative number of polymorphonuclears, and the degree of fibrin formation. He discusses each of these factors in detail.

2. **Id.**—Bartlett considers the application of the changes to the diagnostic prevention of the terminal stages of infections of the appendix and gall bladder. The conclusion is, that a careful study of the blood changes from time to time will give warning of the onset of serious symptoms, so that they can be dealt with before arriving at a fatal point.

3. **Stricture of the Eustachian Tube.**—Bryant traces stricture of the Eustachian tube to the fact that the fossæ of Rosenmüller are subject to obstructions and adhesions which interfere with the physiologic action of the tube through imperfect movements of its cartilage, as can be demonstrated by the salpingoscope. The relief of this impediment by curetting and the application of silver nitrate permits a more effective treatment of the middle-ear condition.

5. **Incipiency in Tuberculosis.**—Dunham points out that in various states the state tuberculosis sanatoria are unable to find patients to fill their beds. This is not because none such exist, but must be attributed to the fact that the medical profession is not yet alive to the detection of early tuberculosis. It is unnecessary to wait for the appearance of bacilli in the sputum. Anything abnormal in the apex of a lung is of

itself sufficient to warrant a tentative diagnosis, which can be definitely settled by administration of tuberculin, preferably after the patient has started treatment. Tuberculin as a diagnostic agent should be more generally employed. Calmette's method, though not absolutely conclusive, furnishes a simple and readily available test, which can be supplemented on negative results by more exhaustive measures.

8. **Exophthalmic Goiter.**—Weber has had three cases in which practical cure was produced by the administration of 1/60 grain (1 mg.) of arsenic combined with the same amount in tablet form of mercury perchlorid, taken three times a day. Signs of improvement in the first case appeared about a month after beginning the remedies, and the patient continued them with little interruption for nearly three years, when complete recovery ensued, which has now lasted two years.

Boston Medical and Surgical Journal.

February 6.

9 *Treatment of Sarcoma with Mixed Toxins of Erysipelas and Bacillus Prodigiosus. W. B. Coley, New York.
10 *Treatment of Leukemia with Mixed Toxins of Coley. R. C. Larrabee, Boston.
11 *General Paralysis as a Menace to Public Safety in Transportation. P. C. Knapp, Boston.
12 Direct Examination of the Larynx and the Upper End of the Esophagus by the Lateral Route. H. P. Mosher, Boston.

9. **Mixed Toxins in Sarcoma.**—Notwithstanding the success which has attended the use of mixed toxins at the hands of a large number of physicians in cases of inoperable and apparently hopeless sarcoma, and as a prophylactic against recurrence after primary operations, Coley finds that the method is still unknown to the majority of medical men. He, therefore, deals in this paper with the practical aspects of the subject. In the first place, he says, it has been shown to have a curative effect sufficient for practical purposes only in cases of sarcoma and not in those of carcinoma. The treatment is applicable in certain inoperable cases, and as a prophylactic against recurrence when the sarcoma has been removed by operation. The prospects of success are considerable. He records his own experience in 430 cases to show that there is no appreciable risk. He describes the preparation and care of the toxins and the method of treatment in inoperable sarcoma. In certain operable cases, namely, such as involve the long bones, in the hope of avoiding operation, and after operation as a prophylactic against recurrence, in which last group the method seems to have some place even in carcinoma. He describes three cases.

10. **Mixed Toxins in Leukemia.**—Larrabee reports his results with the use of Coley's mixed toxins in five cases of leukemia, and his reasons for hoping that favorable results might follow therein. The results were as follows: Case 1, most gratifying; Case 2, little improvement; Case 3, not so good as Case 1, but distinctly "worth while;" Case 4, no change; Case 5 (one of the acute lymphatic type), no results, the patient ultimately dying. It must be borne in mind that the agent is very powerful. In all his cases arsenic had been used without avail. He is unable to say whether the toxins will compare favorably with the excellent results sometimes afforded by *x*-rays but so far they have been encouraging enough to justify further trial.

11. **General Paralysis and Public Transportation.**—Knapp's investigations have led him to note that of a considerable number of general paralytics in public institutions a dangerous proportion is found among people engaged in various means of public transportation. Other forms of chronic brain disease in the early stages are also well represented in such services. He quotes instances of errors on the part of engineers, such as might easily be attributed to such conditions. He suggests that men in responsible position on transportation systems should be subjected to thorough examination at regular intervals by competent neurologists.

New York Medical Journal.

February 8.

13 *The Hand as a Therapeutic Agent. J. M. Taylor, Philadelphia.
14 *Is Sterilized Milk a Safe Food for Infants? E. M. Sill, New York.
15 Therapeutic Use of Soured Milk. H. Emerson, New York.
16 *Uric Acid: Formation, Elimination and Effect on General System. E. E. Smith, New York.
17 *Internal Medicine: Some of Its Present Aspects and Achievements. G. W. McCaskey; Fort Wayne, Ind.
18 *Indications for Water in Childhood. M. Barbour, Philadelphia.
19 *Contracted Pelvis as Cause of Dystocia. J. O. Polak, Brooklyn, N. Y.
20 *Nervous and Mental Manifestations Incident to School Life. W. R. Dunton, Jr., Towson, Md.

13. **The Hand.**—Taylor declares that the hand is a most important instrument for the physician, albeit a most neglected one. Manual operations have been left altogether too much first to quacks, and later to more or less unqualified persons—unqualified, that is, in all respects beyond the mere technic of their application. So important are intelligent, judiciously applied massage, passive movements, stretching, torsions, etc., that the laity recognizes their utility more clearly than members of the medical profession. Taylor refers to the powerful effects capable of being wrought on the vasomotor and visceromotor mechanisms of the centers of the cord, the subsidiary centers, the exposed points in nerves and ganglia, when intelligently operated on by an experienced physician. Here a knowledge of the governing mechanisms is required, along with familiarity with the natural history and phenomena of disease, such as is assumed to be the possession of the expert clinician. Even when the physician prescribes their use by others he should know how to prescribe them in detail according to the actual requirements of the individual case, just as he does not leave the quantities of the drugs and the directions for their use to the pharmacist, but details them in the prescription. Taylor discusses manual operations as aids to diagnosis and treatment, and also massage and passive movements. The points which should be borne in mind in regard to massage are: 1. The rate of movements. 2. Depth and gradation of pressure. 3. Quality of skin touch. 4. The length of time consumed. 5. The kind and degree of exposure of the parts. 6. General massage is exhausting to invalids, especially to convalescents.

14. **Sterilized Milk.**—Sill concludes, for reasons given, as the result of careful clinical observations, chemical research and bacteriologic findings, that the advantages of raw milk, when properly used, far outweigh any advantages which highly heated milk may possess, and if the milk is heated it should never be raised above 140 degrees F. for twenty or thirty minutes.

16. **Uric Acid.**—Smith goes into the physiologic chemistry of uric acid, and points out that it is not an important factor constitutionally in disease, but that its pathogenic results are confined to cases in which it is deposited in the tissues, such as tophi or infarcts, or as embedded crystals, and produces mechanical injury. It is possessed at most of only the slightest degree of toxicity. The amount of uric acid found in the urine is no measure whatever of its import as a morbid factor in the case.

17. **Internal Medicine.**—McCaskey describes the revolution in medicine effected in less than a generation, and says that internal medicine must now be considered as a specialism, just as surgery is. This does not lessen the sphere of the general practitioner, who must ever continue, as he is now, the high priest of the domestic sanctuary. He should know something of all the specialties, enough to decide whether or not his patients need the special diagnostic and therapeutic resources of any one of them.

18. **Water in Childhood.**—Barbour urges the importance of giving children, both in health and disease, more water than is now commonly done.

19. **Contracted Pelvis.**—Polak emphasizes certain points in pelvimetry and cephalometry, and further says that in primiparæ, when there is a normal relation between the head and the pelvis, the presenting part descends into and engages in the pelvic cavity during the last week or two of pregnancy; consequently when the head is not engaged in a primipara at the beginning of labor something must be wrong. This rule, he says, has no exception. Any of the following causes will prevent the head from being found engaged: A contracted pelvis, a large head, a small child, excessive liquor amnii, malpositions of the fetus, multiple pregnancy, and placenta prævia.

Before labor Stone's method, with labor in progress a modification of Mueller's method, of measurement may be used. If the conjugata vera measures 9 cm., or even with a conjugata of 8 cm., Polak practices induction at the thirty-sixth week, considering it the operation of choice. With a conjugate of 7.5 or less, Cesarean section at or shortly before term is the elective operation. If the patient is first seen during labor, and has a conjugate not below 8.5 cm., Nature and forceps should give place to podalic version. With a smaller conjugate, or if in the operator's opinion the danger to the child is too great, hebotomy or Cesarean section is to be used. If the child is dead or dying perforation may be done, but only if the pelvis is above 7.5 cm. The larger the anteroposterior diameter the safer.

20. **School Life.**—Dunton gives the following as the ideal conditions under which a child should study: Hygienic environment, not too long hours, and those broken by intervals for play and relaxation; the natural mode of thought should be followed, association rather than mere effort of memory being sought; not more than twenty or fewer than ten pupils to one teacher. The nervous conditions likely to affect the pupil's ability to learn are chorea, epilepsy, tics, hysteria, neurasthenia, the mental diseases, imbecility of varying grades and dementia præcox.

Archives of Internal Medicine, Chicago.

January.

21 *Nervous Affections of the Heart. F. Müller, Munich, Germany.
22 Hemolytic Reactions of Blood in Dogs Affected with Transplantable Lymphosarcoma. R. Well, New York.
23 Trichomonas Hominis Intestinalis: A Study of Its Biology and Its Pathogenicity. H. A. Freund, Detroit, Mich.
24 *Experimental Study of Action of Oil on Gastric Acidity and Motility. D. M. Cowie, Ann Arbor, Mich., and J. F. Munson, Sonyea, N. Y.
25 *Experimental and Clinical Investigation of Pulse and Blood Pressure Changes in Aortic Insufficiency. H. A. Stewart, Baltimore.

21. **Nervous Heart.**—Mueller reviews the physiology of the heart and its connection with the nervous system, pointing out the dependence of the modern conceptions of nervous heart disease on the results of experimental investigations. The importance of the accelerator branches of the sympathetic system is recognized, and the probability that sensory fibers run in the sympathetic from the heart to the cord, at the level of the lower cervical or upper dorsal segments, is shown by the fact that the pain of angina pectoris is often associated with hyperesthetic areas in parts of the arm and chest receiving their nervous supply from the same segments. Nervous affections of the heart may arise from structural changes in the nerves controlling the heart, as in cases of tachycardia due to the compression of the vagus by a tumor; but most nervous heart affections arise in connection with functional nervous disease, especially with neurasthenia and with the condition expressed by the old term nervousness, which is characterized by an over-irritability of the nervous system. Alterations in the rate of pulsation are most prominent. The tachycardia is not constant, but alternates with periods of normal rate or with bradycardia. The heart reacts to an abnormal degree to those influences which cause variations in the rate of normal states, such as digestion, caffein, alcohol, muscular exertion and psychic excitement. The nervous acceleration differs from that due to myocardiac weakness in that there are no signs of defective circulation and the rate of the pulse tends to improve under continuous exertion.

Arrhythmia is seldom due to nervous influences alone. The only kind of arrhythmia whose connection with nervousness we are sure of is the so-called respiratory, or infantile, arrhythmia for which Mueller proposes the more appropriate term of "changing pulse rate." This is an exaggeration of a normal reflex over the vagus and is a sign of unstable equilibrium of the vagus center. As such a respiratory irregularity is never observed in organic cardiac disease, this symptom is of no little diagnostic value. Pulsus alternans and pulsus irregularis perpetuus indicate severe damage of the heart muscle and are never symptoms of nervous cardiac disease. Short attacks of complete arrhythmia, even of delirium cordis, occurring when the stomach is overloaded and relieved by emptying that organ, may be due to reflex action through the vagus, or perhaps to autointoxication. Mueller doubts whether extrasystoles are ever a sign of purely nervous disorders. When pronounced they are always a sign of severe damage of the heart muscle; when very slight in young people they may be due to sudden and considerable rise of blood pressure and indicate an incipient degeneration of the myocardium which may disappear or may take many years to reach the stage of evident heart failure. It is better in practice to consider this symptom as a sign of importance and not simply a manifestation of a nervous heart which commonly passes as harmless.

Palpitation appears to be produced by a peculiar type of muscular contraction which may be due to nervous influences, in which the systole reaches its maximum in too short a time for the most effective propulsion of the blood. The arterial blood pressure in individuals with nervous heart is characterized by variability, sometimes too high, sometimes too low, but in some cases it is continually too high. This is almost always a sign of beginning arteriosclerosis and it is not surprising that many nervous individuals fall a prey relatively early in life to arteriosclerosis induced by rapid variations in the blood pressure which is often also abnormally high. The size of the heart is seldom altered in nervous cases, but this important sign must not be too strictly interpreted. Pain in the region of the heart in nervous cases is commonly less intense, less radiating, lasts longer, and has less relation to exertion, than in angina of organic disease. It is not so deep-seated, but is often referred to the chest wall. Mueller questions the existence of purely nervous angina.

Cardiac diseases resembling nervous affections are seen in goiter heart, in various forms of poisoning, e. g., alcohol, caffein, tobacco, in toxemia from bacterial toxins such as typhoid, influenza, tuberculosis, etc. They occur in connection with sexual states, such as pregnancy, puberty, the climacteric, and in obesity. Paroxysmal tachycardia is to be recognized as a distinct nervous disease. The diagnosis of nervous cardiac disease should never be made until every other possibility has been excluded. Treatment should be directed to the general nervous state and cardiac remedies omitted unless there is evidence of failure of the circulation. The patient should be given a change of scene in a quiet place, preferably in a high altitude. Watering places and modes of treatment devoted to the cure of heart disease are apt to be too exciting and direct the patient's attention too much to the heart. An orthographic determination of the outlines of the heart may sometimes be useful in convincing the patient of the absence of organic disease, but the physician, having won the patient's confidence, should direct his attention away from his heart. Muscular exercise is likely to be of benefit, and education in the control of emotion may remove the tendency to nervous irritability.

24. **Oil in Stomach Troubles.**—Cowie and Munson summarize the conclusions of their experiments as follows: Olive oil and cottonseed oil, when given in connection with the usual test breakfast, decrease the gastric acidity at the end of the hour and retard the evacuation of the stomach. The beginning of the secretion of hydrochloric acid is delayed when oil precedes the meal, unchanged when oil follows the meal. The height of digestion is delayed when oil is given either before or after the meal. The height of secretion is lowered when oil precedes the meal, unchanged when oil follows the meal. If the progress of digestion is watched by the removal of small samples of stomach fluid at frequent intervals it will be observed, when oil precedes the meal by one-half hour, that at the end of what is usually taken as the digestive period for a test breakfast (three-fourths to one hour) the acidity is distinctly lower, while as great a height as is present in the control meal is frequently reached some minutes later. The action of oil on the stomach functions is only a temporary one. It has no effect on subsequent meals unaccompanied by oil. The therapeutic value of oil is apparent. In suitable cases it is preferable to antacids because of its calorific value. In hyperchlorhydria it should precede the meal. In hypochlorhydria it should follow the meal. In stasis and persistent slow evacuation it should be eschewed. In hypermotility it may be given before, during,

or after the meal. Oil lowers the gastric secretion both by reflex central inhibitory stimulation and by mechanical action.

25. **Aortic Insufficiency.**—Stewart reports an elaborate investigation into the pulse and blood pressure changes in aortic insufficiency, which he summarizes as follows: The work of Henderson is confirmed, in that the cardiac cycle is not diphasic but triphasic, and consists of systole, the period of the ventricular discharge; diastole, the period of ventricular relaxation and filling; diastasis, the period of rest. The effect of the production of aortic insufficiency in the dog is to increase the amount of systolic output by only a fraction of a cubic centimeter of blood. The volume of blood which regurgitates is negligible. The transmission of pressure to the ventricle increases the ventricular tonus. It also produces a reflex inhibition of the vasomotor center. The fall of pressure in aortic insufficiency is due to the diminished peripheral resistance thus induced, and is not caused by loss of blood from regurgitation. The increase of pulse pressure—the difference between maximum and minimum pressure—is due to a lowering of the diastolic pressure. There is no increase in the systolic pressure. The main fall in pressure is systolic in time and is due to an increased blood flow through the capillaries. So long as the tonus of the ventricle is maintained, a slowing of the heart rate does not favor regurgitation.

Surgery, Gynecology and Obstetrics, Chicago.

January.

26 *Treatment of the Pedicle and the Ureter in Nephrectomy. J. Bland-Sutton, London, Eng.
27 Treatment of Chronic Diseases of the Stomach. B. G. A. Moynihan, Leeds, England.
28 *Radiograms of Syphilis of the Long Bones. M. W. Ware, New York.
29 *Case of Peritoneal Pseudomyxoma. E. A. Schumann, Philadelphia.
30 *Pancreatic Diabetes and its Surgical Treatment. P. J. Cammidge, London, England.
31 *Pancreatic Catarrh and Interstitial Pancreatitis in Their Relation to Catarrhal Jaundice and Also Glycosuria. A. W. M. Robson, London, England.
32 *Peptic Ulcer of the Jejunum. F. G. Connell, Oshkosh, Wis.
33 Megacolon (Hirschsprung's Disease.) C. Wagner, Chicago.
34 *Lacerations of the Perineum. E. McDonald, New York.
35 *Medical and Surgical Treatment of Gallstones, Their Scope and Relations. J. B. Deaver, Philadelphia.
36 Excision of the Knee Joint. A. H. Ferguson, Chicago.
37 Cholecystotomy and Cholecystectomy as Practiced in the Clinic of Mr. Moynihan. H. Collinson, Leeds, Eng.
38 Another Method for Forming Gastric Fistula. R. T. Morris, New York.

26. **Nephrectomy.**—Bland-Sutton asserts that the great point in the ordinary method of dealing with the pedicle is to avoid including in the ligature any portion of the kidney pelvis. When, however, the pelvis is greatly dilated with many vessels spread out over its circumference, all these long vessels crossing the dilated pelvis require to be seized with hemostatic forceps and tied separately with thin silk. The author has on many occasions seen no care taken to isolate the pelvis, but it has been transfixed with the pedicle needle. This not only makes an extremely thick pedicle, but is fraught with another danger if the kidney is being removed for septic trouble, for the ligature will become septic and probably slough or infect the veins, which in consequence will become filled with septic thrombi. By carefully clamping the ureter and isolating the pelvis, the vessels may be easily isolated and ligated without in any way infecting the wound by leakage of septic matter from the ureter or renal pelvis. To show how successful careful attention to the pedicle may make the operation of nephrectomy, Bland-Sutton mentions that during the last seven years he has performed fifty-eight consecutive nephrectomies with recovery.

28. Abstracted in THE JOURNAL, Oct. 12, 1907, page 1306.

29. **Peritoneal Pseudomyxoma.**—Schumann summarizes his paper as follows: The foreign-body peritonitis of certain observers, peritoneal pseudomyxoma, and secondary myxoma of the peritoneum are different stages or phases of one and the same condition. The disease depends *per se* on the presence of a ruptured multilocular cystadenoma of the ovary. It is a dangerous disease, both as to immediate postoperative results, and also by reason of its tendency to recurrence and to the development of cachexia. Inasmuch as it histologically corresponds accurately with the processes of cancer formation, peritoneal pseudomyxoma must be regarded as a form of carcinoma.

30. **Pancreatic Diabetes.**—Cammidge discusses the pancreatic theory of diabetes and concludes that as it stands at present it does not meet every difficulty or open a royal road to the cure of disease. It makes clear, however, many points in the etiology that were formerly obscure and suggests means by which the old adage "prevention is better than cure," may be applied to many cases of this troublesome and fatal disease.

31. **Pancreatic Catarrh.**—Robson brings forward further evidence in support of his previously expressed views that while many of the ordinary cases of acute catarrhal jaundice are pancreatic in origin, nearly all, or possibly all, cases of so-called catarrhal chronic jaundice are due to catarrh of the pancreas or to interstitial pancreatitis. As regards the relation of interstitial pancreatitis to glycosuria, Robson considers the latter not a common symptom of pancreatic disease and not one that can be relied on as a diagnostic symptom. When present it indicates a serious though not necessarily hopeless condition. Such pancreatic glycosuria occurs only when the greater part of the pancreas has been removed or destroyed, which is particularly the case in chronic interstitial pancreatitis of the interlobular type, following obstruction of the ducts by calculi and produced by ascending catarrhal inflammations from the duodenum. Interacinar pancreatitis involving the islands of Langerhans gives rise to glycosuria at an earlier stage. The delay in operation or lack of drainage of bile ducts may cause an original interstitial pancreatitis to pass on into the interacinar variety. He, therefore, considers it unwise not to drain the bile duct thoroughly, the drainage continuing until the bile becomes free from organisms and its normal route is free from obstruction. In a very large percentage of the cases the removal of the cause, together with drainage of the bile ducts, or in the absence of a removable cause simple drainage of the bile duct alone, is an operation that may be safely recommended in suitable cases that have failed to yield to general treatment.

32. Abstracted in THE JOURNAL, Jan. 18, 1908, page 232.

34. **Laceration of the Perineum.**—McDonald discusses in detail the causation, prevention and treatment of perineal lacerations under the following heads: 1, Rapid delivery; 2, relative disproportion; 3, faulty mechanism; 4, forceps. With regard to the last cause, the harm caused depends on the kind of forceps and whether the operator delivers the head with the forceps or not. The Simpson type of long-bladed forceps is apt to cause laceration in two ways: 1, In consequence of the breadth between the shanks on a backward pull unduly stretching the outlet; 2, the non-approximation of the blades to the head, so that the edge impinges on the vaginal floor. The secret of success in the prevention of perineal lacerations is to keep the mucous membrane intact; that of avoidance of tears in forceps delivery is the use of proper forceps and the removal of the forceps as soon as the head can be controlled by the hand. McDonald prefers solid-blade forceps after the Tucker-MacLane model. The article is elaborately illustrated with diagrams, and the technic of repairs is described.

35. **Gallstones.**—Deaver takes occasion to emphasize the importance of the collaboration of the internist and the surgeon. While the ideal treatment of gallstones is undoubtedly by surgical procedure, it would be folly to assert that all cases should be subjected to such treatment without delay. It is the demonstration of the living pathology that has brought about our present understanding of gallstones. The surgeon has been the first and foremost privileged to appreciate what grave lesions and pathologic processes may exist with few marked symptoms, and even these may be masked until they suddenly show their effect too late for treatment to be of avail. Deaver discusses briefly the medical treatment of gallstone disease, which may aim to reduce inflammation of the gastrointestinal tract, to favor elimination of toxins, and to guard against dietary and other indiscretions. Much can be done by medical means to build up the patient, reduce the effects of cholemia, and prevent recurrence of attacks of colic, not to mention relief of acute pain, but that the gallstones can be broken up, dissolved, removed or otherwise done away

with by drugs seems an idle statement in the light of the modern understanding regarding their nature and pathology. As regards the surgery, if any departure from the straight incision is required, he prefers Mayo Robson's. Gauze pads and marine sponges are used to wall off the field of operation, acting as absorbers and also as retractors under the hand of the assistant. The insertion of pads should begin at one extremity to avoid prolapse of intestines on both sides, and they should be introduced where they are to remain until the close of the operation. Adhesions masking the field of operation, obstructing the biliary passages or interfering with surrounding organs should be dealt with, but if doing no damage they should be left alone. All stones present that can be reached should be removed. If the gall bladder is not so damaged as to be useless as a reservoir it should be left. Drainage should always be used in the presence of infection, and in the majority of cases even without infection, after an operation on the gall bladder or bile ducts. After removal of the gall bladder in presence of infection the drainage of bile should be provided for by a rubber tube through the stump of the cystic duct or preferably through the hepatic duct, into the common duct; in the absence of infection a cigarette drain should be used. There should be as little disturbance of the peritoneum as possible.

Journal of the Indiana State Medical Association, Fort Wayne.

January.

39 The Doctor: His Relation and Duty to the State. D. C. Peyton, Jeffersonville.
40 Advantages and Possible Errors of Radiograph in Renal, Ureteral and Bladder Surgery. W. N. Wishard, Indianapolis.
41 *Anatomic Basis for Reflex Movements. B. D. Myers, Bloomington.
42 *Spina Bifida. M. F. Porter, Fort Wayne.
43 Work of the Indiana State Board of Health. J. N. Hurty, Indianapolis.

41. **Reflex Movements.**—Myers gives a brief but succinct, clear and diagrammatically illustrated, description of modern knowledge of the minute anatomy of the nervous system in relation to reflex movement.

42. **Spina Bifida.**—Porter discusses the subject of spina bifida, using Sutton's classification into: 1, Myelocele; 2, syringomyelocele; 3, meningomyelocele; 4, meningocele; 5, masked spina bifida or spina bifida occulta. He discusses each type separately and hopes to aid in dispelling the too prevalent opinion that children with spina bifida are doomed, and that treatment is futile. He cites Treves, Cabot and Woolsey to show that the treatment of spina bifida by injection and by the ligature has been relegated to oblivion, and that the trend now is toward earlier and more frequent resort to open surgical operation. The dangers are shock, sepsis, and loss of cerebrospinal fluid. Shock is likely only in cases immediately threatening life. Sepsis is practically under the surgeon's control. Clamping the neck of the sac or corking the opening into the canal will prevent dangerous loss of cerebrospinal fluid. As to contraindications hydrocephalus is regarded as one, but Porter points out that early operation may prevent this condition, and predicts, therefore, that it will also cure in some cases. He "would not refuse to operate on a patient with spina bifida, born with hydrocephalus, for in so doing one would stand to lose nothing that is worth keeping and might be rewarded by the recovery of the patient." Paralysis he deems an indication for rather than against operation. The age of election, the tumor not increasing and causing no symptoms, is between six months and a year. As to technic, he prefers infiltration or ether anesthesia; he considers scopolamin-morphin and cocain unwarranted. In addition to the dangers above named, hemorrhage, though not likely to be profuse, must be regarded, because of the extreme susceptibility of a young baby. In aseptic measures the great tenderness of a child's skin must not be forgotten. Separation of the sac from the skin should be done before the sac is opened. Clamping the sac, when this is possible, is the best means of preventing the loss of cerebrospinal fluid. With care this may be done without danger, even though the sac contains cord elements. The head must be low and the hips high, to guard against serious loss of fluid. Nerve elements when present are usually in the middle line, therefore lateral incision is advised. Should the sac contain important nerve structures they should be separated from it if possible without harm; otherwise that part of the sac adherent to the nerve structures should be returned to the spinal canal. As to closure, inasmuch as a firm covering can be made of flaps from connective tissue, muscles, and skin, osteoplastic operations are unnecessary and unwarranted. Buried absorbable sutures should be used for closure of sac and coaptation of muscle and connective tissue flaps. They should also be used for the skin, if possible, though horsehair through-and-through suture may be deemed desirable. Drainage is to be avoided. An adequate dry dressing should be applied and should be left undisturbed for a week. Porter reports three cases in children, aged respectively six weeks, forty-eight hours and seven months. The first and third operations were eminently successful. The new-born infant recovered from the operation, but died seventy-two hours later in convulsions due to rapidly developing hydrocephalus.

Journal of the Michigan State Medical Society, Detroit.

January.

44 *Matter in the Ionized State. F. T. F. Stephenson, Detroit.
45 *Dysmenorrhea. R. Peterson, Ann Arbor.
46 *Menorrhagia and Metrorrhagia. W. P. Manton, Detroit.
47 *Amenorrhea. R. R. Smith, Grand Rapids.
48 *Hygiene in Pregnancy. W. H. Haughey, Battle Creek.

44. **Ionization.**—Stephenson gives a fairly clear statement of the essentials of the ionic theory, with some suggestions as to its relation to medicine, couched in terms to make a difficult subject comprehensible.

45 to 48. Abstracted in THE JOURNAL, July 13, 1907, page 180.

Journal of the Medical Society of New Jersey, Orange.

January.

49 Scarlet Fever. H. Williams, Passaic.
50 Measles. P. Marvel, Atlantic City.
51 Röthein. A. McAlister, Camden.
52 *Smallpox. E. E. Worl, Newark.
53 Proper Direction of the Forces of Heredity. W. A. Wescott, Berlin.

52. **Smallpox.**—Worl discusses the history of smallpox and discusses its diagnosis. He advocates in all sincerity an absolute compulsory vaccination law for New Jersey, based on the medical knowledge and experience of the last hundred years.

Journal of Cutaneous Diseases, New York.

January.

54 *Osteopathies of Quarternary Syphilis. Professor Gaucher and Dr. Levy-Bing, Paris.
55 *Exudative Erythema Multiforme with Report of a Case of Hemorrhagic Bullous Erythema Circinatum. W. T. Corlett, Cleveland, Ohio.
56 *Case of Sarcoid. S. Pollitzer, New York.
57 *Multiple Benign Cystic Epithelioma. M. L. Heidingsfeld, Cincinnati.
58 *Easy and Rapid Method of Microchemical Research for Mercury in Urine. C. Lombardo.

54. **Quaternary Syphilis.**—Gaucher and Levy-Bing conclude that syphilis, either directly or in the second generation, is an important factor in the production of suppurative bone and joint conditions of childhood, in white swelling, hip and Pott's disease, whether the lesions be directly dependent on quaternary heredosyphilis or the hereditary taint be only a capital predisposing cause for tuberculous lesions.

55. Abstracted in THE JOURNAL, Oct. 5, 1907, page 1214.

56. Abstracted in THE JOURNAL, Oct. 12, 1907, page 1306.

57. Abstracted in THE JOURNAL, Sept. 28, 1907, page 1137.

58. **Mercury in Urine.**—Lombardo describes a method of examining for mercury in the urine by adding one drop of egg albumin to 5 c.c. of filtered urine, agitating, and adding 3 c.c. of 12 per cent. solution of tin chlorid just filtered and hyperacidified with 25 per cent. of hydrochloric acid. Turbidity, clarification and opalescence follow. The urine is then centrifuged and the precipitate examined under 600 diameters. Metallic mercury, if present, will be seen in the form of extremely minute black globules.

Pennsylvania Medical Journal, Athens.

January.

59 *Perforation in Typhoid. A. Newlin, Philadelphia.
60 *Cases of Perforation in Typhoid Operated on at Pennsylvania Hospital. C. F. Mitchell, Philadelphia.

61 *Experience in Surgery of Typhoid Perforation. G. L. Hays, Pittsburg.
62 Relation of General Practitioner to the Tuberculosis Problem. E. M. Green, Easton.
63 Sanatorium Treatment of Pulmonary Tuberculosis. H. M. Neale, Upper Lehigh.
64 Treatment of Pulmonary Hemorrhage. A. P. Francine, Philadelphia.
65 *Chronic Cystic Mastitis. J. Speese, Philadelphia.
66 *Syphilitic Enlargement of Salivary Glands, with Report of Case. B. C. Gile, Philadelphia.
67 The Live County Society. How Constituted, How Maintained. J. R. Hunter, Lewistown.
68 Medical History of Dauphin County. C. A. Rahter, Harrisburg.

59 to 61. Abstracted in THE JOURNAL, Nov. 2, 1907, page 1550.

65. Abstracted in THE JOURNAL, Oct. 26, 1907, page 1465. This article was also published in the *University of Pennsylvania Medical Bulletin*, January, 1908.

66. Published in *American Medicine*, December, 1907.

American Journal of Orthopedic Surgery, Philadelphia.

January.

69 Operation for Stiffening of the Ankle Joint in Infantile Paralysis. J. E. Goldthwait, Boston.
70 *Etiology and Treatment of Congenital Talipes Calcaneovalgus. W. G. Stern, Cleveland, Ohio.
71 Comparative Strength of the Adductor and Abductor Groups in the Foot. R. B. Osgood, Boston.
72 *Gonorrheal Exostosis of the Os Calcis. C. H. Jaeger, New York.
73 Isolated Fracture of Greater Tuberosity of Humerus. H. L. Taylor, New York.
74 Some Unusual Spines. J. T. Watkins, San Francisco.
75 A New Brace for Postural Scoliosis. R. Soutter, Boston.
76 Portable Traction Apparatus for Use in Fractures of and Operations on the Lower Extremities. R. Soutter, Boston.
77 Effect of Imperfect Hygiene in Production of Bone Tuberculosis. C. Wallace, New York.
78 Treatment of Ununited Fractures of the Neck of the Femur by Use of Coin Silver Nails. H. A. Wilson, Philadelphia.

70. Talipes Calcaneovalgus.—Stern concludes that besides the recognized changes in the form and position of the foot, one of the leading characteristics of congenital talipes calcaneovalgus is the muscle imbalance consisting in passive contractures in the dorsal flexors and peronei muscles, and overstretching, lengthening, relaxation and atrophy of the plantar flexors and supinators and the tendo Achillis. These muscles are not dependent on changes in the central nervous system but are due to forced position of the foot within the uterus in pronation, abduction and dorsal flexion. This forced position, he asserts, is due to abnormal intrauterine pressure, usually coming from a partial lack of liquor amnii. All cases should be treated as early as possible by means of overcorrection and fixation. This treatment is a cure for the muscle imbalance and usually restores the form of the foot. Both the types of muscle imbalance and the results from such static treatment are additional proof of the pressure theory.

72. Gonorrheal Exostosis.—Jaeger refers to a painful affection of the foot that has been noted in a few instances to occur as a concomitant of gonorrhea. He reports a case, making the seventeenth, with a typical exostosis growth which was removed, the bone being very brittle and easily curetted with a sharp spoon. The condition is an ossifying periostitis in which the gonococci are found.

Dominion Medical Monthly, Toronto.

January.

79 *Appointment of Ministers of Health. F. G. Bushnell, Brighton, England.

79. Ministers of Health.—Bushnell considers the nature and scope of a ministry of health and the arguments for and against it. He is himself convinced that such an appointment would possess untold potentialities for the health, and, therefore, for the common wealth, of nations.

Military Surgeon, Carlisle.

January.

80 Study of Tuberculosis in the United States Navy. P. M. Rixey, Washington, D. C.
81 *Psychic Phenomena of Intestinal Toxemias and Their Treatment. J. C. DeVries, N. Y. National Guard.
82 *Ipecacuanha in Amebic Dysentery. H. I. Raymond, U. S. Army.
83 Treatment of Amebic Dysentery. R. M. Thornburgh, U. S. Army.
84 Sanitation of the Jamestown Exposition. R. L. Payne, Norfolk, Va.

81. Intestinal Toxemias.—DeVries discusses the psychic phenomena, depression, dread, fear, nostalgia, melancholia, delusions, etc., dependent on intestinal toxemia, and generally the result of long continued constipation. There is intestinal distension, with gas pressure on the pneumogastric. The treatment, of course, is the removal of cause. In nervous anorexia he gives food, varied and at frequent intervals; bitter tonics half an hour before meals, high-frequency current, forced feeding, salt rub, needle bath, or other form of hydrotherapy, and attention to the bowels are indicated.

82. Amebic Dysentery.—Raymond considers the treatment by ipecacuanha rational, because this drug causes a prompt disappearance of the ameba from the intestinal tract. He describes the mode of administration in detail.

Lancet-Clinic, Cincinnati.

February 1.

85 *Plea for Early Diagnosis and Removal of Uterine Fibroids. A. D. Willmoth, Louisville, Ky.
86 *Postperitoneal Fibroid Tumors of the Uterus. R. B. Hall, Cincinnati.
87 Calmette Serum Reactions in Ophthalmology. T. D. Vail, Cincinnati.

85, 86. Abstracted in THE JOURNAL, Nov. 2, 1907, pages 1552 and 1553.

Kentucky Medical Journal, Bowling Green.

February.

88 Present Status of Gastric Surgery, with Illustrative Cases. J. G. Sherrill, Louisville.
89 *Management of a Primipara During Pregnancy and Labor. L. H. South, Bowling Green.
90 *Surgery of Inguinal Hernia with Report of Fifty-two Operations on Forty-eight Patients. A. Schachner, Louisville.
91 Perineovaginal Restoration. D. C. Bowen, Elizabethtown.
92 Therapeutic Use of Roentgen Rays. J. T. Rodman, Owensboro.
93 Complete Turbinectomy. D. S. Reynolds, Louisville.

89, 90. Abstracted in THE JOURNAL, Nov. 2, 1907, pages 1550 and 1551.

Albany Medical Annals.

January.

94 *The Hexon Bases in Experimental Liver Necrosis. H. C. Jackson and R. M. Pearce, Albany.
95 *Enzymes in Experimental Liver Necrosis. Id.
96 *Nitrogenous Metabolism in Experimental Liver Necrosis. Id.
97 *Nuclein Metabolism in Experimental Liver Necrosis. Id.
98 *The Fats and Lipoids in Experimental Liver Necrosis. Id.
99 *Investigation of the Nature of Proteid-Soap Compounds and of the Staining of Pure Fats and Lipoids by Scharlach R. and Sudan III. L. K. Baldauf, Albany.
100 Pathogeny of Spastic Rigidity of Childhood. L. Archambault and L. K. Baldauf, Albany.
101 Cerebral Abscess as an Associated Lesion in Acute Purulent Meningitis. L. Archambault and H. P. Sawyer, Albany.
102 *Physiologic Action, Elimination and Therapeutic Application of Sodium Cacodylate Used Hypodermically. S. L. Dawes and H. C. Jackson, Albany.
103 Case of Congenital Stenosis of the Duodenum. H. L. K. Shaw and L. K. Baldauf, Albany.
104 Lipoma of Intestine Occurring in Child Thirteen Months Old and Causing Symptoms of Intestinal Obstruction. G. Chandler and L. K. Baldauf, Albany.
105 Case of Rupture of Uterus by a Myomata. W. A. Krieger, Albany.

94 to 98. Published in the *Journal of Experimental Medicine*, Sept. 21, 1907, and abstracted in THE JOURNAL, Oct. 26, 1907, page 1475.

99. Published in THE JOURNAL, Aug. 24, 1907, page 642.

102. This article was published in THE JOURNAL, June 22, 1907, page 2090.

Wisconsin Medical Journal, Milwaukee.

January.

106 *Mechanism of Pneumococcal Infections. H. E. Wolf, La Crosse.
107 *Pneumonia. L. A. Potter, Superior.
108 *Prevalent Ocular Diseases. N. M. Black, Milwaukee.

106 to 108. Abstracted in THE JOURNAL, Aug. 31, 1907, page 793.

Milwaukee Medical Journal.

January.

109 Dr. Senn. B. Robinson, Chicago.
110 Splenomegaly. E. J. Butzke, Jackson, Wis.
111 The Relation of the Physician to the Profession. W. A. Scott, Port Washington, Wis.

American Journal of Urology, New York.

January.

112 Choice of Anesthesia for Operations on the Genitourinary Tract. M. Krotoszyner, San Francisco.

113 The Bladder Neck and One of Its Diseases. R. L. Rigdon, Monterey, N. M.
114 A Peculiar Method of Sexual Gratification in a Man of 70, with a Mishap. L. Buckle, New York.
115 Comparative Study of Drugs Commonly Used in Urethral and Bladder Irrigation. J. W. Miller, Cincinnati.

Alabama Medical Journal, Birmingham.

January.

116 Cases of Admixture of Blood with Urine. A. L. Fowler, Atlanta, Ga.
117 Pneumonia. C. E. Black, Wilsonville.
118 Heart Sounds. G. S. Hogan, Birmingham.
119 The Controversy Between the Bureau of Navigation and the Medical Department of the Navy. J. B. Greene, Birmingham.
120 Retiring President's Address, Talladega County Medical Society. W. R. Bishop, Talladega.
121 President's Address, Jefferson County Medical Society. B. L. Wyman, Birmingham.

Journal of Nervous and Mental Diseases, New York.

January.

122 A Study in Tactual Localization in a Case Presenting Astereognosis and Asymbolia Due to Injury to Cortex of Brain. M. Prince, Boston.
123 Tactile Localization and Symbolia; Have They Localization in the Cerebral Cortex? Id.
124 Nature and Relationships of Hysteria. R. C. Woodman, Middletown, N. Y.

Ophthalmology, Milwaukee.

January.

125 Significance of Pupillary Inequality. H. F. Hansell, Philadelphia.
126 Use of Paraffin Spheres in Tenon's Capsule, with Report of Thirty-nine Cases. C. N. Spratt, Minneapolis.
127 Can a Substitute for Simple Enucleation Be Employed in Every Instance? G. F. Suker, Chicago.
128 Optic Neuritis of Intraocular Origin, Especially in the Form Due to Acute Plastic Chorioiditis. H. Gradle, Chicago.
129 Best Methods and Means of Examining Eye Patients. G. C. Savage, Nashville, Tenn.
130 Treatment of Partial Optic and Retinal Atrophy by Electricity and Massage. H. V. Würdemann, Milwaukee, Wis.
131 Preliminary Statistical Inquiry into Refractive and Some Pathologic Conditions of Eyes of Five Hundred Men Above Sixty Years of Age. D. W. Greene, Dayton, Ohio.
132 Angiosclerosis of the Eye. R. S. Lamb, Washington, D. C.

FOREIGN.

Tities marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

January 25.

1 Why Is Tuberculosis So Common in Ireland? Suggestions for Its Prevention and Cure. J. Byers.
2 *Epidemiology of Plague, with Special Reference to Its Mode of Spread and the Means by Which It May Be Combated. C. A. Gill.
3 *Graduated Labor in Pulmonary Tuberculosis. M. S. Paterson.
4 *Effect of Exercise on Opsonic Index of Patients Suffering from Pulmonary Tuberculosis. A. C. Inman.
5 Presence and Significance of Certain Rod-shaped Bodies in Cells of Carcinomatous Tumors. W. F. Robertson.
6 Relationship of Cancer Cells to Development of Cancer. J. E. Salvin-Moore and C. E. Walker.
7 Effect of Liquid Air on the Graftable Cancer of Mice. J. E. Salvin-Moore and J. O. W. Barratt.
8 Treatment of Exophthalmic Goiter with Milk of Thyroidless Goats. W. Edmunds.
9 Acute Suppuration in a Thyroid Adenoma Due to the Bacillus Typhosus. F. G. Melandri and T. P. Legg.

2. Plague.—Gill discusses his subject under the following heads: 1. The course of the present pandemic of plague from its origin to the present time. 2. The mode of spread of the disease: (a) within an infected area, and (b) from an infected to an uninfected area. 3. The methods by which the disease may be combated: (a) prophylactic measures in uninfected areas, and (b) preventive measures in the epidemic zone. With regard to the agency of the flea, he shows that in the case of pneumonic plague infection may be direct from man to man, though in the bubonic variety a link between man and the rat appears necessary. The evidence, however, is not sufficient to warrant the assumption that the flea is anything more than one of the factors in the case, as accidental inoculation in the case of man, feeding experiments, and infection through the shaved skin in animals abundantly prove. As regards preventive measures, Gill considers that every sanitary authority [in places in communication with plague areas] should possess a special plague department, the sole duty of which it should be to frame and carry out the measures suited to the requirements of the area under its control. He holds that man is the agency by which the disease is conveyed from place to place, but that the rat is the means by which the disease, once imported into a given area, is afterward disseminated throughout it. He considers regulations on the following lines necessary for any port in communication by shipping with an infected port: All ships communicating directly or indirectly with infected ports should be periodically cleared of rats by the Clayton process or some similar method. In addition, other methods of destroying rats should be carried out, such as periodical poisoning or the permanent use of traps, a certain number of which it should be obligatory on all ships to carry. Inspection by the sanitary authorities of ports should be made from time to time to see that these measures are being carried out. To prevent the transfer of rats from the dock to the ship all gangways or other communications between the ship and the shore should be removed at night and a circular iron sheet having a diameter of three feet and a thickness of about a quarter of an inch should be affixed to each hawser or cable, both near its attachment to the ship and also at its shoreward extremity. These "rat shields" would effectually prevent any rats passing from the shore to the ship or vice versa. They should be immediately put in place on coming into port on all occasions. He considers disinfection of premises useless except at the very commencement of an epidemic. A solution of phenol is useful for sprinkling against the rat flea. In treatment, Haffkine's prophylactic should be available. No drugs appear to be useful, but treatment should be on general principles with free administration of cardiac tonics. In India a large number of unnecessary deaths take place from heart failure, due largely to fear.

3. Graduated Labor.—Paterson has devised and carried out at the Brompton Hospital Sanatorium, at Frimley, a method of treatment by graduated labor, in pulmonary tuberculosis which may be summarized as follows: Walking from half a mile to ten miles daily; carrying baskets of mold or other material; using a small shovel; using a large shovel; using a pickax. These occupations are pursued for four hours a day, and finally the use of the pickax for six hours a day. He describes in detail the cautions to be observed and the symptoms that indicate excessive work. The points so far determined appear to him to be as follows: Suitably selected patients can be gradually trained to do the hardest navvy work for six hours a day, the result being that the general condition is much improved while some patients lose both their sputum and their tubercle bacilli. 2. Certain patients who do not improve on light work show marked improvement on harder work. 3. Patients who have slightly overexerted themselves and are kept at rest for the few following days subsequently are not only not worse, but may be in their own opinion better. His observations lead him to the conclusion that graduated labor is a definite medical treatment for patients with pulmonary tuberculosis and raises the general health and resisting power of the patients. Finally, Paterson expresses the opinion that the combination of rest, pure air and overfeeding is not the only treatment for chronic pulmonary tuberculosis, and equally strongly advises those physicians who may adopt the suggestions contained in this paper to pay particular heed to the word graduated, and to remember the importance of the temperature of 99 F.

4. Exercise and Opsonic Index in Tuberculosis.—Inman's paper is complementary to that of Paterson and shows, by demonstrating clearly the relation between the opsonic index and the amount of work done, that the explanation of the satisfactory results obtained by Paterson's system of graduated labor lies in autoinoculation of the patient with his own tuberculin. Inman's observations were conducted on numbered specimens only, his laboratory investigations being, therefore, unbiased by the clinical knowledge. The absolute correspondence, therefore, between Inman's opsonic findings and Paterson's clinical results as regards the relation of exercise to tuberculosis is remarkable. The practical outcome of Inman's investigations is that the labor scheme devised and carried out by Dr. Paterson has been submitted to a new scientific test, by means of which its effect on the blood of the patients has been traced. The opsonic index has shown that the exercise has supplied the stimulus needed to induce artificial autointoxication and that

the systematic graduation of labor has scientifically regulated the autointoxication in point of time and amount. This cooperation with the natural efforts of the blood has enabled Paterson to send his patients back to their accustomed work, however hard it may be. But the investigation has done more than explain a successful mode of treatment. Paterson agrees with Inman that with the aid of the opsonic index the stimulus can be regulated with scientific accuracy and the clinical results can be obtained more certainly and rapidly. While this involves work in the laboratory, it means a more rapid and certain discharge of the patient, which is the main object of the sanatorium, and as a consequence of this the power to treat a larger number of patients.

British Medical Journal, London.

January 25.

10 Some Misleading Abdominal Cases. D. Power.
11 Analysis of Recent Series of One Hundred Consecutive Appendectomies. A. H. Burgess.
12 Intussusception Due to Polypus. J. L. Stretton.
13 *Passage of Food Through Human Alimentary Canal. A. F. Hertz.
14 *Status Lymphaticus in Relation to General Anesthesia. W. J. McCardie.
15 Fatal Case of Status Lymphaticus. H. Hilliard.
16 Case of Double Dislocation of Innominate Bones with Fractures of the Legs. J. S. Warrack.
17 Rare Case of Scurvy. J. Chambers.
18 Formaldehyde in Alopecia Areata. J. J. McInerney.

13. The Passage of Food Through the Alimentary Canal.—Hertz describes, with diagrammatic illustrations, his observations on the passage of food through the human alimentary canal by means of the skiagraph, the ingestion of bismuth being used to make the condition visible. The movements of the small intestines, of the colon, and the action of the ileocecal valve and sphincter are described, also the nervous control of the gastrointestinal movements, and of the intestinal movements during defecation. His observations show that some of the contents begin to leave the stomach within half an hour of the beginning of a meal and, traveling at about the rate of an inch a minute, pass through the entire small intestine and reach the cecum in about four hours. He further found that the appearance of the shadow at the cecum, when examined by the *x*-rays, coincided in point of time with the occurrence of the earliest sounds to be heard on auscultation in the right iliac fossa, whence he concludes that in auscultation we have a means by which we can time the rate at which the contents of the small intestine pass from the stomach to the cecum, and that thus auscultation may on occasion take the place of skiagraphy. Further, the gurgling in the right iliac fossa, usually associated with typhoid, is not a distinctive sign, as it occurs in all individuals who have small feeds repeated frequently, for in them fluid contents will be entering the cecum continuously, instead of only for a limited period beginning about four hours after each meal. He further investigates the antiperistaltic waves, which he finds to commence when the food reaches a point about midway in the transverse colon, so that the contents of the ascending colon and part of the transverse colon are caused to circulate and come into frequent intimate contact with the mucous membrane, with the result that absorption of fluid and nutrient materials occurs rapidly. Owing to this absorption of fluid in the proximal part of the colon the intestinal contents distal to the middle of the transverse colon are always moderately firm. The average time of travel of the contents from the cecum is about two hours to the hepatic flexure, an hour and a half more to the middle of the transverse colon, and one hour more to the splenic flexure. He shows that antiperistalsis renders the treatment of diseases of the cecum by rectal injections rational. He explains the indigestion caused by unpleasant emotions and pain, the greater activity of peristalsis in herbivorous animals and vegetarians, and why a glass of cold water taken on rising aids evacuation in many persons. His observations further lead to the conclusion that the cecum and the ascending and transverse as well as the descending portion of the colon are active in defecation. The influence of the central nervous system is as important in defecation as in deglutition, but the intermediate part of the alimentary canal works to a great extent automatically, hence the taking of food and the excretion of feces can be timed to suit the convenience of an animal, whereas the rest of the alimentary canal is always active without requiring attention and without giving rise to sensation.

14. Status Lymphaticus and Anesthesia.—McCardie describes the history and evolution of our knowledge of the status lymphaticus, or status thymicus, from the observations of Plater, in 1814. He discusses the effects of different anesthesias and illustrates them with a series of cases; as also the diagnosis, the associated conditions, delayed chloroform poisoning, mode of death, pathology, choice of anesthetic, type of anesthesia, prophylactic treatment, and treatment.

Australasian Medical Gazette, Melbourne.

December.

19 *Medical Matters in Victoria. H. B. Allen.
20 *Murmur Developed in Right Internal Mammary Vein. J. C. Verco.
21 *Case of Dislocated Spleen, with Operation. C. R. Blackburn and R. G. Craig.
22 Case of Intestinal Anthrax. D. Wallace and R. J. Millard.
23 Experiences in the Surgical Treatment of Ulcerations of the Upper Alimentary Tract. F. Magarey.
24 Ocular Reaction with Calmette's Tuberculin. E. A. Falkner.
25 Case of Achondroplasia. W. F. Litchfield.
26 Some British and Foreign Clinics. R. Worrall.
27 Case of Dicephalic Fetus. E. Bourne.
28 Case of Hypertrophic Prostate. T. Fiaschi.

19. This article will be discussed in the Department of Medical Economics.

20. Murmur in Right Internal Mammary Vein.—Verco describes a peculiar case of a man, aged 60, subject to occasional attacks of giddiness and unconsciousness. There was old chorioretinitis, probably syphilitic. He was addicted to morphin, but there was no history of alcoholism. The noticeable condition was as follows: Over the ensiform cartilage was a streaming, continuous noise, more marked during inspiration than expiration, and very loud on deep inspiration. It resembled somewhat the purring of a cat, or even more the whirring noise of a gramophone preliminary to the singing. It could be traced up through the right chest along the sternum and to the right side as far as the clavicle with somewhat diminished intensity, and as far out as the mid-axillary line. It was questionably audible on the left side of the chest. Pressure on the tip of the ensiform cartilage or on its surface, immediately abolished the murmur in the chest; as did also firm pressure on the abdominal wall on the right side, outward and downward for about two and a half inches from the middle line. Pressure over the corresponding area on the left side did not affect it. A continuous thrill could be felt on very gentle pressure over the ensiform cartilage; it varied in its palpability at different times. When the man was lying flat on his back without a pillow, the thrill disappeared from the ensiform cartilage, but the murmur could still be heard in the chest, and was abolished by pressure on the ensiform cartilage. In the erect position the murmur was heard during inspiration, but suddenly ceased at the beginning of expiration. On postmortem the round ligament of the liver was found to contain a very large vein, admitting a lead pencil. After passing downward it turned at a short angle in the great omentum and running in it upward and to the left, perforated the abdominal wall, ran over the end of the ensiform cartilage to its base, then crossed and dipped under the right costal cartilage joining the right internal mammary vein, which from this point on was very large, though thin-walled.

21. Dislocated Spleen.—Blackburn describes the case of a girl of 17 who entered the hospital with severe pain in the right lower abdomen and local symptoms suggesting an appendicular abscess with matting and adhesions of the omentum and bowel. Constitutional symptoms developing, the abdomen was opened and a huge engorged, bleeding spleen was found. It was replaced in the normal situation. The conservative method in this case appears to have been right, for after thirteen months the organ had shrunk to half its original dimensions, was fixed, and situated midway between its normal position and the umbilicus.

Medical Press and Circular, London.

January 22.

29 *Embolism Consequent on Lesions of the Left Heart. P. Claisse.
30 Surgery of the Heart and Pericardium. R. Rehn.

31 Lumbar Puncture in Affections of the Nervous System. A. S. Gubb.
32 Conservative Vital Reaction in Pathologic Anatomy. F. P. Weber.

29. Embolism.—Claisse, in discussing embolism consequent on lesions of the left heart, asks to what we must attribute the preponderating part played by mitral stenosis. The solid embolus is sometimes of endocarditic vegetation. This form is common to all forms of heart disease. The formation of clots is a complex phenomenon, however, and dependent on: 1, coagulability of blood; 2, changes in walls; 3, blood stasis. The first two conditions are not especially associated with any particular structural change, but blood stasis is hardly likely to be present save in mitral stenosis and is, therefore, the principal cause of the tendency to clot formation. Thus we get the relationship of cause and effect between mitral stenosis and embolism in the aortic domain. Claisse next considers the migration of the embolus and the results of its lodgment. The prognosis depends on its size, its seat and its nature. The bearings of the first two are fairly obvious. With regard to the nature, not every arterial obstruction is to be permanent. Recent freshly formed clots may cause merely temporary blockage, then break up and disappear, and in recent cases we must bear this fact in mind in respect to both prognosis and treatment. In embolism of the viscera treatment can be only palliative. In recent embolism of a limb we must consider the possibility of absorption. The necessity of strict immobility in phlebitis may cause us to hesitate to move or massage a limb with a damaged artery, but we must remember that a venous clot dislodged passes into the right heart and thence into the lungs, whereas the loosening of an arterial clot in the extremities can have only good effects, since it will free the lumen of the large artery and the fragments of the clot can after all not go further than the capillary barrier. In recent embolism of the extremities, therefore, massage is strictly indicated and has been proved satisfactory, but it is useless in cases of old standing.

Dublin Journal of Medical Science.

January.

33 Plea for Nonoperative Treatment of Diseases of Women. A. de Roulet.
34 *Diphtheritic Fever. J. Moore.

34. Diphtheritic Fever.—Moore gives a further communication on an outbreak in a girls' school of sore throat, bacteriologically proved due to a form of Klebs-Loeffler bacillus, the resulting illness, however, failing to present the typical features of classical diphtheria. The points emphasized are the consensus of opinion of the meeting on the previous occasion to which the communication was made that the Klebs-Loeffler bacillus not infrequently produces a masked or larval form of diphtheritic sore throat, apt to be overlooked from the failure of the classical symptoms; the need for a bacteriologic examination, even in mild sore throat; and the persistence of the infection of diphtheria, even in these mild cases. Moore reproduces and tabulates the history of the epidemic and draws attention to two instructive sequels: 1, The diphtheria was carried home to the country in two instances by the girls nearly two months after their illness; 2, nearly twelve months later a little epidemic of a precisely similar nature occurred in the school. In this, out of three cases the milder form of the diphtheria bacillus was present in two, but was not to be detected in the third, the clinically most severe case. A similar case was that of the superintendent of St. Patrick's Nurses' Home. Her attack was first considered as neuralgic or rheumatic, but right facial paralysis with slight paralysis in the legs suggested its true character. Moore describes the clinical syndrome of this "diphtheritic fever" as follows: A more or less severe coryza; a moderate tonsillitis, usually one-sided, and unattended by high fever or by much exudation; thickly coated tongue and foul breath, the tongue desquamating as in scarlatina; a patchy or punctate rash on the roof of the mouth and buccal mucous membrane; swelling of the cervical lymphatic glands; a roseolar rash on the skin (in 12 out of 18 cases—in 4 cases early in the attack, in 8 cases on the fifth to the seventh day from the first symptoms or invasion); distinct desquamation (in 3 cases), the peeling being particularly marked on the hands.

Journal of Laryngology, Rhinology and Otology, London.

January.

35 Retrospect of Laryngology, 1907.
36 Retrospect of Rhinology, 1907.
37 Retrospect of Otology. D. Grant and C. Nourse.
38 Case of Extradural Abscess Induced by Middle-Ear Disease. R. Spira.
39 Thirty-Six Successive Cases of Optic Neuritis. Nasal Accessory Sinus Disease Present Twenty-Six Times. (Concluded.) H. M. Fish.
40 Case of Meningitis Subsequent to Mastoid Operation for Chronic Discharge of Middle Ear in Tuberculous Subject Relieved and Apparently Cured by Lumbar Puncture. P. Jakins.

Clinical Journal, London.

January 22.

41 Simple Procedure by Which Risks of Excision of Rectum Can Be Materially Reduced and the Removal of Infected Tissue Rendered More Complete. W. A. Lane.
42 Oxaluria, Phosphaturia, and Albuminuria. W. L. Brown.
43 Cases of Cholecystectomy. J. D. Malcolm.

Presse Médicale, Paris.

January 8, XVI, No. 3, pp. 17-24.

44 Technic of Total Abdominal Hysterectomy. F. Jayle.
45 *Dilution and Concentration of the Blood. (Dilution et concentration du sang.) Chiray.

January 11, No. 4, pp. 25-32.

46 *Treatment of Ptosis and Dilatation of the Stomach from Atony. E. Enriquez.

January 15, No. 5, pp. 33-40.

47 Syndrome Due to Lesion in the Optic Thalamus. (Syndrome thalamique.) P. Hartenberg.
48 Parasites in Meat Transmissible to Man. (Parasites des viandes.) X. Gautier.
49 Pathogenesis and Treatment of Alveolar-Dental Cysts. G. Mahé.

January 18, XVI, No. 6, pp. 41-48.

50 *Emergency Treatment of Joint Wounds. (Traitement d'urgence des plaies articulaires.) P. Hardouin.
51 Study of Stomach Secretion Without the Use of the Stomach Tube. Sahli Test. L. Meunier.

January 22, No. 7, pp. 49-57.

52 Treatment of Fracture of the Humerus Below the Condyle in Children. M. Vivier.

45. Dilution and Concentration of Blood in Kidney and Heart Disease.—Chiray's research has confirmed that of other French writers in regard to the essentially mechanical nature of the edema in heart disease, while it is of essentially osmotic nature in kidney disease. The blood becomes concentrated in heart disease and diluted in kidney disease. These modifications in the blood are so closely connected with the pathogenic mechanism of the edema in each case that they become aggravated or retrogress parallel with the course of the heart or kidney affection. The albumin, the corpuscles, the ash and the hemoglobin show dilution of the blood in renal edema while the proportions are higher than normal in cardiac edema. In dubious cases of cardiorenal trouble, determination of the proportion of albumin in the blood serum will show whether treatment should be directed to the heart or to the kidney.

46. Ptosis of the Stomach with Dilatation from Atony.—Enriquez has been studying this condition with the Roentgen rays, and has found that the mechanical devices recommended for it aggravate instead of improving the condition. The stomach is pressed farther down with them. He remedies this by introducing an inflatable bag inside a whaleboned girdle worn as low as possible. As the bag is inflated, the stomach is pushed up into its proper position, the abdominal wall yielding to the pressure of the bag below the stomach, as he shows by a number of illustrations of this "pneumatic hypsogastric pad." The girdle fastens at the side and is strong enough to resist the pressure from the pad, which thus can enlarge only by pushing the abdominal wall out of the way. The relief from the symptoms is immediate, and the general health rapidly improves. The girdle and pad do not show from the outside nor alter the outline of the figure.

50. Emergency Treatment of Joint Wounds.—Hardouin illustrates the technic with which he passes a drain across the knee joint, with two other perpendicular drains passed through the soft parts at each side, emphasizing the necessity for prompt intervention after a traumatism affecting a joint, and the importance of ample drainage. He knows of five cases of injury of the knee in which the wound was merely sutured and the limb immobilized. Purulent arthritis developed before the end of the week, proving fatal in one case. The drains used should always be large and stiff to prevent their becom-

ing obstructed. They can be removed in from five to ten days. Gauze wicks do not answer the purpose and cause retention of fluids. The joint should be immobilized from the start, even before the patient is moved from the scene of the traumatism. Hardouin thinks that an exposed joint should always be regarded as infected.

Revue de Chirurgie, Paris.

January, XXVIII, No. 1, pp. 1-112.

53 Adenomas and Cysts of the Parotid Gland. P. Lecène.
54 Case of Diffuse Hypertrophy of the Submucous Connective Tissue of the Stomach. (Linite plastique.) T. Jonnesco and J. Grossmann.
55 Diagnosis and Treatment of Chronic Hernia of the Diaphragm. D. J. Cranwell.
56 Three Cases of Intrasaccular Tumor of the Omentum. (Tumeurs épiploïques intrasacculaires.) Ambiel and Regnault.

Semaine Médicale, Paris.

January 8, XXVIII, No. 2, pp. 13-24.

57 *Neuritis in the Course of Cirrhosis of the Liver. Klippel and Lhermitte.
58 Professional Medical Secrecy in the French Army.

January 15, No. 3, pp. 25-36.

59 Amaurotic Family Idiocy. (Maladie de Tay-Sachs.) Apert.
60 Regulations for Prophylaxis of Typhoid Fever in French Army.

January 22, No. 4, pp. 37-48.

61 Slight Diagnostic Value of Sore Throat in Typhoid. L. Blum.
62 Introduction of Tube the Entire Length of the Alimentary Canal. Scheltema's "Permeation Method" for Treating Gastrointestinal Disorders.

57. Neuritis in the Course of Cirrhosis of the Liver.—Klippel and Lhermitte show that the generalized polyneuritis occurring in conjunction with alcoholic cirrhosis of the liver does not differ essentially from uncomplicated alcoholic neuritis. The peripheral nervous system suffers from the loss of the antitoxic functioning of the liver, and it thus becomes more susceptible and allows the neuritic modifications to become installed, the neuritis being more severe in proportion as the lesions in the liver are deeper and more destructive. The neuritis observed in the terminal stages of cirrhosis of the liver, on the other hand, is merely the result of the action of the multiple toxins of cachexia, as is evidenced by its non-inflammatory and degenerative character.

Berliner klinische Wochenschrift.

January 13, XLV, No. 2, pp. 45-88.

63 Acute Chorea as Complication of a Severe Gastrointestinal Affection. C. A. Ewald and J. Witte.
64 Albumin Metabolism in Diabetes. (Eiweissumsatz beim Diabetes mellitus.) W. Falta.
65 Syphilis, Tabes and Paralysis in Their Etiologic and Therapeutic Relations with Lecithin. G. Peritz.
66 Specific Formation of Precipitin After Injections of Human Feces. (Präzipitinbildung nach Menschenkotinjektionen.) A. Fuerstenberg.
67 What Has Been Learned from Experimental Research on Mouse Cancers. (Mausekrebs.) E. Gierke.
68 Peculiar Cell Inclusions in Leukemia. (Zelleinschlüsse bei Leukämie.) A. Pappenheim.
69 Penetrating Wounds of Digestive Tract. (Penetrierende Verletzungen des Magendarmtractus.) W. Braun.
70 *Importance for Prognosis of Ocular and Cutaneous Reaction to Tuberculin. A. Wolff-Eisner and F. Teichmann.
71 *Vomiting of Pregnancy. (Erbrechen Schwangerer.) E. Runge.
72 Chronic Dysentery? O. Ziemssen.

January 20, No. 3, pp. 89-132.

73 *Genital Tuberculosis. A. Martin.
74 Study of Men in Running and Bicycling Races. (Wettgeher und Wettradfahrer.) W. Pfeiffer.
75 Mechanism and Cure of Strangulation of the Penis. Pels-Leusden.
76 *Treatment of Syphilis with Arsenic. O. Rosenthal.
77 Gummatous Lymphomas of Neck. H. Brauser.
78 *Tuberculin in Renal Tuberculosis. (Tuberkulin gegen Nierentuberkulose.) O. Pielicke.
79 *Medical Write-ups. (Aerztliche Reklamearticel.) C. Posner.
80 Vaccination in the German Colonies. (Schutzpockenimpfung.) Ziemann.
81 Chemical Differences Between Human and Cow's Milk. (Chemische Unterschiede der Menschen- und Kuhmilch.) Biedert.
82 Febrile Reaction—possibly of diagnostic value—After Ingestion of Water Containing Radium Emanations in Cancer. Loewenthal.

70. Prognostic Importance of the Ocular and Cutaneous Reactions to Tuberculin.—Wolff-Eisner and Teichmann give a number of composite curve reactions made up from many cases in which tuberculin was inoculated in the skin or instilled in the eye. The curves show that the reaction may occur in one of three ways. The specific standard skin reaction shows an abrupt rise to its highest point in from twenty to twenty-four hours and keeps high for the second day, subsiding on the third or at the latest on the fourth day. The second type shows a rapid but weak reaction, reaching its highest point in about ten hours and subsiding completely during the second day. The third type is a tardy and continuous reaction, not reaching its highest point until the end of the second day or later, but then persisting at this high point for several days. The first, standard reaction, is encountered in most cases of incipient tuberculosis, and in the first and second stages, when the disease shows a slow and favorable course, demonstrating that the organism is capable and is struggling against the bacillary invasion. The second, weak type of reaction, is observed in the third stage of tuberculosis, and in the first and second stages, when the resisting powers of the organism are at a low ebb. The tardy and prolonged reaction is encountered in cases without any clinical signs of active tuberculosis. The conjunctiva does not show any reaction in this class of cases. The practical conclusions of the article are that a lively reaction, according to the first type, is a sign of favorable prognosis, as it shows that the organism is waging vigorous war against its invaders, and that with the aid of reinforcements from without, supplied by medical care, the prospects are in favor of a final victory.

71. Vomiting of Pregnancy.—Runge regards the liver as mainly responsible for the hyperemesis of pregnant women and urges the necessity for light and frequent meals, repose, cool instead of warm drinks and soups, with copious ingestion of fluid and psychopathic measures. Drugs owe their possible benefit mainly to suggestion, but anesthetics may prove useful, and some writers have reported good results from sodium bicarbonate. Complete abstention from food for twenty-four hours in an institutional environment has frequently given good results.

73. Genital Tuberculosis.—Martin advocates thorough general treatment and local excision, but with careful regard for the parts not affected by the tuberculous process and capable of aiding in the healing. In his experience he has had 16 patients treated and cured by application of these principles, 7 for four years and 6 for a still longer period. One patient died from another cause; 2 were not benefited; 2 have succumbed since to tuberculous lesions elsewhere, and 6 were materially improved and ultimate cure is probable. It is generally impossible to perform a radical operation in case of genital tuberculosis, as there is usually some focus elsewhere, and conservative measures are indicated that will not interfere with menstruation. Vaginal excision of the focus relieved the patients of their pains and restored them to comparative health and strength, all increasing in weight thereafter. If the genital tuberculosis is part of a general infection, he does not attempt local intervention except when compelled by excessive secretions or pains or hemorrhage. The loss of blood and the enforced reclining render operative intervention a serious matter in case of general tuberculosis, to be avoided if possible. Spinal anesthesia dispenses with chloroform or ether, and he has never observed serious results from operative measures. He remarks that tuberculous women seem to display a highly inconvenient tendency to conception, but that signs that the tuberculosis is being aggravated by the pregnancy should compel its interruption. Supervision of the weight generally decides whether the patient is on the up or down grade or stationary. A lively reaction to ocular instillation of tuberculin indicates that the resisting powers of the tuberculous organism are active and can be depended on to oppose resistance to the tuberculous infection. On the other hand, a negative reaction, in case of certain tuberculosis, demonstrates that the resisting powers are at a low ebb, and that the outlook for the pregnancy and the patient's future health is grave. In about two-thirds of his 53 cases the genital tuberculosis was localized in the adnexa and in one-third in the uterine mucosa. The cervix was affected in three cases and the vaginal mucosa only once. Encapsulated tuberculous abscesses often simulate tumors in the adnexa. It is important to learn whether the tumor has developed in connection with puerperal, septic or gonorrheal processes. Disturbances in menstruation are always suspicious.

76. Arsenic in Treatment of Syphilis.—Rosenthal's experience seems to justify his assertion that arsenic deserves a

place beside mercury and iodid in the treatment of syphilis. It does not act on the secondary stage, and it does not prevent recurrence, so it can not compete with mercury, but he defines its indications as when there is an idiosyncrasy to mercury or iodid, or when it is desired to suspend them for a time after a long course of treatment, also in obstinate, tubercular and ulcerative cutaneous manifestations, such as occur in malignant syphilis, also in case of cutaneous affections superposed on syphilis or when it is deemed advisable to suppress the true nature of the infection and treat merely the alleged "blood disease," or when there is "syphilophobia." The few cases in which the arsenic failed to produce the desired effect were counterbalanced in his experience by numbers of others in which remarkable benefit was apparent, even in severe and obstinate forms of syphilitic manifestations.

78. **Tuberculin in Treatment of Tuberculosis of the Kidneys.** Pielicke reports a case of tuberculosis of one kidney treated with tuberculin, care being observed to avoid a febrile reaction. Kidney colics and suppurative cystitis had existed for eight weeks, and tubercle bacilli were numerous in the urine when systematic tuberculin treatment was commenced. It was continued for four months with twenty-six injections, and recovery made rapid strides, with subsidence of all symptoms. Nearly two years later the patient was still in good health, strong and well, four tubercle bacilli were discovered in the urine after long search, and Pielicke advises a new course of tuberculin treatment, although the patient is apparently in perfect health and has gained ten pounds comparatively recently. In conclusion, Pielicke reviews the scanty literature on the subject of tuberculin in treatment of renal tuberculosis, his conclusion being a recommendation of tuberculin as liable to cure unilateral kidney lesions and materially to improve the bilateral form, even with complicating pulmonary processes, supplementing nephrectomy if the latter is deemed necessary. Tuberculin, he asserts, seems to have a specially favorable action on tuberculous processes in the bladder.

79. **Medical Write-Ups.**—Posner relates the efforts that have been made in France and Germany to put an end to the paid medical write-ups of new drugs. Since 1900 the International Association of the Medical Press has been at work devising ways and means to abolish this abuse and the consequent misleading of the profession. In France the "gratis journals" published by manufacturing concerns present the appearance of reliable scientific journals, and sometimes contain articles of real worth sandwiched in between the paid write-ups. No means has yet been discovered to put an end to this condition of affairs in France, but in Germany the leading manufacturing firms welcomed the efforts to put an end to venal medical write-ups and they supplied documentary evidence to the German Association of the Medical Press—valid in any court of law—which enabled them to make out a list of men who make a practice of offering their services to the manufacturers for this purpose. The list is at the disposal of the journals belonging to the association although it is held strictly confidential. Posner, Lennhoff and Schwalbe form the committee in charge of the list. No article by a person whose name is on the list—and it includes some foreigners—will be published in any of the journals belonging to the association, and no abstract will be made of their articles published elsewhere. At the same time, Posner states, not all the medical journals belong to this national association, and if one of these authors can get his article published anywhere, its further dissemination is assured. This is especially liable to occur when the article is inserted in a journal in the advertising columns—"below the line"—but so printed and worded that the casual reader would not notice the difference and would read it as part of the scientific department of the journal. Posner appeals to the profession not to allow itself to be deceived, but to separate the wheat from the chaff in these medical articles. Physicians are urged to note with care the firm offering the lauded article for sale, and also the original source of the commendatory articles cited, that is, the journal in which they are first published. Desirable as is every valuable addition to our remedies, he remarks, yet the greatest caution is necessary to avoid disappointments later.

Correspondenz-Blatt für schweizer Aerzte, Basle.

November 1, 1907, XXXVII, No. 21, pp. 657-688.

83 Physical-Therapeutic Measures in General Practice. (Physiotherapeutisches in der allgemeinen Praxis.) O. Amrein.

November 15, No. 22, pp. 689-720.

84 *The Typhoid-Paratyphoid Question. C. Stäubli.
85 Acute and Chronic Inflammation of Empty Hernial Sac. (Entzündung des leeren Bruchsackes.) H. Sutter. Commenced in No. 21.

December 1, No. 23, pp. 721-752.

86 Agglutination and Colloidal Precipitation. E. Bürgi.
87 Phimosis in Children. G. Rheiner.

December 15, No. 24, pp. 753-784.

88 *Idiopathic Phlegmonous Gastritis. P. H. Hosch.
89 Traumatic, Isolated Intrathoracic Injuries of Heart. (Herzverletzungen.) F. Henny.

January 1, XXXVIII, No. 1, pp. 1-32.

90 *Nail Extension Method in Treatment of Fractures. (Nagelextension.) F. Steinmann.

84. **The Typhoid-Paratyphoid Question.**—Stäubli remarks in regard to the diazo reaction that it gives a positive result frequently in trichinosis, citing seven unpublished cases in which the reaction was exceptionally intense and prolonged. He thinks that positive findings should suggest the possibilty of typhoid. The diazo reaction is especially instructive in case of relapse during convalescence from typhoid. In his experience this reaction was always positive when the rise in temperature indicated a relapse, while it was always negative when the rise in temperature was merely the result of some complication. The blood count was also instructive; the number of leucocytes was always below normal, with a characteristic change in the proportions of the various white cells, when the patient had typhoid. The bacteriologic findings were always positive also in the cases of typhoid in which the blood could be examined at the beginning of the disease. In discussing paratyphoid infection he refers to some serious epidemics in Switzerland and mentions that some calves presented a secondary disease resembling typhoid at the time of one epidemic which followed the eating of certain veal. He urges further bacteriologic and clinical research on the various forms of poisoning from meat or other foods, especially as to whether or not the bacterial toxins resist the action of heat, and the blood count and diazo reaction in ptomain poisoning. Cooking the meat or other article kills the bacteria, but whether or not it affects the toxins is still unsettled.

88. **Idiopathic Phlegmonous Gastritis.**—Hosch reports a case with autopsy findings and reviews the literature on the subject of the primary, idiopathic form of phlegmonous gastritis. The symptomatology at first may be the same as with abscess of the stomach wall, and the affection runs its course in from one to twenty days with fever of a pyemic character as a rule. The cause has been ascribed to alcoholism, trauma, dietetic errors, poisoning, chilling or poor food, but in many cases no cause can be assigned. The causal germs may reach the stomach from a carious tooth, ulcerating stomatitis or throat trouble or in the food, and their passage into the mucosa may have been rendered possible by injury from some sharp object that had been swallowed, a fishbone, scrap of egg shell or of a decayed tooth, splinter of bone, or piece of glass. A tonsillitis or boil may have been the primary focus for hematogenic infection. He advises rest of the stomach, ice, rectal alimentation, saline infusion, morphin and stimulants rather than operative measures, as the point of the perforation can not be determined beforehand, and there are frequently multiple perforations. Klauber advises cautious lavage of the stomach, as the diseased organ is unable to get rid otherwise of the profuse inflammatory secretions, but Hosch thinks the danger of perforation contraindicates this, while, as the process is in the submucosa, it would not be reached by lavage alone.

90. **"Nail Extension" for Fractures.**—Steinmann's method of applying extension to aid in the treatment of a fractured limb was described in THE JOURNAL, Sept. 28, 1907, page 1152. He says that the method needs little if any anesthesia, but requires knowledge of anatomy and careful asepsis, while it allows the use of heavier weights than other technics, is entirely painless and excludes absolutely all danger of irritation of the skin or interference with the circulation, decubitus or gangrene, and permits the limb to be exercised from the first.

The technic is applicable equally well to compound and simple fractures. The advantages of extension in the treatment of fractures are being recognized more and more the world around.

Deutsche medizinische Wochenschrift, Berlin.

January 16, XXXIV, No. 3, pp. 89-136.

91 *Treatment of Uterine Cancer, Especially the Inoperable Form. (Gebärmutterkrebs.) A. Martin.
92 *Ocular Reaction to Tuberculin. (Conjunctivale Tuberkulinreaktion.) F. Levy.
93 Treatment of Injuries of the Liver. (Leberverletzungen.) A. Neumann.
94 Immunization to Tuberculosis. E. Klebs.
95 Measurement of Diastolic Blood Pressure in Man. (Messung des Blutdruckes.) J. Strasburger. Commenced in No. 2.
96 Value of Leo's Method for Determining the Acidity of the Monometallic Phosphates in Stomach Content. (Azidität der Phosphate im Mageninhalt.) M. Barberio.
97 Anthrax Infection from Tonsillitis with Anthrax Meningitis and Encephalitis. (Milzbrand.) F. G. A. Meyer.
98 *Glass Cap for Clinical Thermometer. (Glashülse beim Gebrauch des Fieberthermometers.) S. Fackenheim.

91. **Uterine Cancer.**—Martin reviews the present status of uterine cancer; the percentage of operability has risen from 30 to 80 per cent., and Mackenrodt even reports 92 per cent., while the primary mortality has dropped from an average of 50 to 20 per cent. or even lower, Wertheim's statistics showing 8.7 per cent. At present the average survival of five years is 20 per cent., instead of 10 per cent. a few years ago. The microscope is the only reliable means for differentiating cancer, he says, and adds that it often happens that the cancer is a casual discovery during examination for some other disturbance, even in case of physicians' wives. Cancer of the body of the uterus is more liable to cause hemorrhages or other disturbances earlier than cancer of the cervix, which is the reason for its better prognosis. He remarks that cancer seldom develops later in women who have been under treatment for gynecologic affections. In all his experience he has encountered only two such cases, Zweifel has never had one and Lomer only one. All writers agree in respect to the dire importance of pregnancy for a patient with cancer. He has discovered incipient cancer of the cervix in a number of pregnant women, and has always found extensive infiltration of the glands. He has repeatedly found metastases in the ligaments in these cases, and sometimes remote metastases, high up behind the abdominal aorta and vena cava. In some instances infiltrated glands were found above the renal artery. He has encountered a number of inoperable cancers in pregnant women at term, but has always succeeded in arresting the hemorrhage and without septic sequels. In one case a scirrhous ulcer of the cervix and vagina—microscopically verified—caused little disturbance and operation was refused. The family physician gave the patient condurango and she is still living, twenty-two years later. Martin has also encountered three cases in which the inoperable cancer caused little trouble and the patients lived for more than a year, succumbing finally apparently to senile weakness without much disturbance from the cancer of the cervix. Of all measures for treatment of inoperable cancer he prefers the actual cautery, applying the heat so that it acts on the crater from a little distance rather than directly in its center, protecting the weak parts of the crater wall. When the bleeding stops and the cauterization seems to be even and thorough he tampons the cavity with gauze impregnated with a solution of ferric chlorid. The plain gauze is removed from the vagina the third day and the medicated gauze from the crater the tenth. When the scab is thrown off the third week the lesion shrivels and heals over to a surprising extent, and the general health rapidly improves. Months and even years may pass without further disturbance, but the average survival is only from 224 to 280 days after this thorough cauterization. In his personal experience, 70 per cent. of the patients did not survive the first year; 20.6 per cent. died during the second year, and one patient lived for four and a half years. Local recurrence after the radical operation, and the pains in the glands which indicate recurrence are too often overlooked, even by the family physician who treats the patient for sciatica or something of the kind. The experiences of many surgeons have been so favorable that extensive operations are justifiable for these recurrences, but they should be attacked early, as also recurrence after the palliative operation. Repetition of the palliative operation is justifiable, he says, if only for its encouraging effect on the mind of the patient. The cauterization is liable to put an end to the pain, he asserts, even when it has previously resisted morphin and other sedatives. When less radical palliative measures alone are possible, hot irrigation of the bladder will sometimes relieve and hot external applications, or possibly a retention catheter. A retention tube in the intestines may likewise give great relief in some cases.

92. **Ocular Reaction to Tuberculin.**—Levy reports a positive reaction in 85 per cent. of 41 tuberculous patients and in 60 per cent. of 54 with dubious tuberculosis, while the reaction was positive only in 2.5 per cent. of 235 non-tuberculous patients.

98. **Glass Cap for Clinical Thermometer.**—To prevent the danger of contamination of others, Fackenheim uses a small glass cap that fits loosely over the lower half of the clinical thermometer to protect it from infection and to prevent infection of the patient. This little cap can be boiled or sterilized, and its presence over the thermometer does not affect in the least the behavior of the mercury.

Münchener medizinische Wochenschrift.

January 14, LV, No. 2, pp. 57-104.

99 Research on Emptying of the Stomach, Separation of Solids and Fluids, Behavior of Fat. (Entleerung des Magens, etc.) O. Prym.
100 Ocular Reaction in Diagnosis of Tuberculosis. (Ophthalmoreaktion.) L. Blum. Id. G. Schröder and K. Kaufmann. Id. A. Wolff-Eisner. Id. G. Treupel. Id. Schmidt.
101 Is There a Specific Precipitation Reaction in Syphilis and Paralysis? F. Plaut, W. Henck and Rossi.
102 Blood Pressure During Muscular Work. (Verhalten des Blutdruckes bei Muskelarbeit.) Krone.
103 Influence of Electric Stimuli on Distribution of Blood in Human Body. (Einfluss elektrischer Reize auf Blutverteilung.) Geissler.
104 Influence of Mud Baths on Circulatory Organs. (Einfluss der Moorbäder auf die Zirkulationsorgane.) R. Schmincke.
105 Causes of Infantile Mortality. (Amtsarzt und Säuglingssterblichkeit.) A. Groth.
106 *Pathogenesis of Leucorrhea. (Fluor albus.) E. Neter.
107 *The Physician in the Poet's Mirror. (Der Arzt im Spiegel der Dichtkunst.) Salzer.

January 21, LV, No. 3, pp. 105-152.

108 Hemolysis by Combination of Oleic Acid or Sodium Oleate with Cobra Venom. von Dungern and Coca.
109 *Cutaneous Tuberculides in Infants. (Hauttuberkulide im Säuglingsalter.) F. Hamburger.
110 Importance of Training the Police in Certain Principles of Psychopathology. Uebl.
111 Neurology of the Tongue. (Neurologie der Zunge.) J. Flesch.
112 Eighty Spinal Anesthesias Without a Failure. (Lumbalanästhesien.) E. Holzbach.
113 Significance of Pentoses in the Feces and Their Quantitative Determination. (Pentosen in den Fäzes.) A. Jolles.
114 Action of Subcutaneous Injection of Pyocyanase. P. Bermbach.
115 History and Indications of Oxygen in Therapeutics. (Sauerstofftherapie.) G. Galli.

106. **Causal Treatment of Leucorrhea.**—Neter describes a case in which obstinate leucorrhea persisted with obstinate constipation but subsided at once when the constipation was arrested. It recurred twice, each time in conjunction with recurrence of the constipation, and subsided as the latter was relieved. The leucorrhea is probably the result of the congestion in the abdomen resulting from constipation.

107. **The Physician in Poetry and Satire.**—Salzer cites quotations from Petrarch, Molière, Swift, Addison, Voltaire, Goethe, Pliny and numerous modern writers, criticising and satirizing the medical profession. He adds that medical science certainly has its vulnerable Achilles' heel where the shafts of satire can freely pierce. Notwithstanding our modern progress the physician, he says, is still occasionally confronted with conditions in which he feels like the veterinarian who laid one hand on the tail and the other on the head of a sick cow and told the owner, "There is something wrong between here and here." Comparatively few persons, Salzer continues, die without medical attendance. First comes the disease, then the physician, and then death. No wonder, he exclaims, that the would-be wits of all ages have made a *propter hoc* out of a *post hoc*. In conclusion, he remarks that the higher the scientific and ethical standing of the medical profession, the better for the individual physician, for the patient and for the people and the state, especially for the latter when physicians are

allowed more of an influence on legislation than has hitherto been accorded them.

109. Cutaneous Tuberculides in Infants.—Hamburger writes from Escherich's clinic at Vienna on the diagnostic importance of the squamous papulous lesions which he has found on the skin in infants with tuberculosis—actual tuberculides. He has found them comparatively frequent in cases of infantile tuberculosis, but the number of tuberculides varies with each child. The discovery of even a single tuberculide, however, classifies the child as already tuberculous. The papule is between the size of a pinhead and that of a hempseed, round, and only slightly raised above the skin. At first it is bright red, but after a few days it turns a bluish or brownish color with a brownish scab in the center. The scab has a pointed projection below as it is thrown off, thus leaving a conical defect in the center of the lesion. The lack of a tendency to ulceration is characteristic, as also the depression in the center, the livid brownish discoloration and the peculiar shininess of the efflorescence as the skin is stretched. The course is always chronic, and there does not seem to be any symmetry in the arrangement of the lesions.

Wiener klinische Wochenschrift.

January 9, XXI, No. 2, pp. 37-68.

116 *Myasthenia gravis and the Parathyroids. (Myasthenia gravis und Epithelkörper.) F. Chvostek.
117 *Alimentary Levulosuria in Liver Affections. (Lävulosurie bei Leberkranken.) A. v. Halasz.
118 Osteoplastic Operation for Defect Left by Frontal Sinus Empyema. P. Clairmont.
119 *Vaccinal Inoculation of the Eye. (Impferkrankung des Auges.) R. Tertsch.
120 Influencing of Antibodies by Alcoholic Organ Extracts. E. Weil and H. Braun.

January 16, No. 3, pp. 69-102.

121 Bacteriologic and Clinical Study of Gonorrhea and Its Treatment. R. Stein.
122 Glycosuria After Injury of Duodenum from Ingested Lye. E. Zak.
123 Cutaneous and Ocular Reaction to Tuberculin. G. Morelli.
124 Angiomatous Indurated Bands in Muscles. (Angiomatöse Muskelschwielen.) A. von Khautz, Jr.
125 Improved, Aseptic Dental Chair and Table. (Zahnchirurgischer Operationstisch.) B. Mayrhofer.

116. Myasthenia and the Parathyroids.—Chvostek reviews the various theories in regard to the origin of myasthenia gravis and points out their fallacies. He then presents evidence in favor of the assumption that it is the result of defective functioning on the part of the parathyroids. Insufficiency of these bodies, he states, leads to tetany, but excessive or perverted functioning may lead to myasthenia. The symptoms, the course of the affection, the frequent combination with affections for which changes in some of the blood glands are known to be responsible, in addition to the changes in the muscles in myasthenia, all testify that myasthenia belongs in the category of the blood-gland affections. The cause of the functional disturbance in the parathyroids may lie in the glands themselves or may be in the nerve centers and tracts regulating their functioning. Nothing is known, he declares, that suggests any connection between the thymus and myasthenia.

117. Alimentary Levulosuria in Liver Affections.—Halasz gives the findings of the levulosuria test on nearly 50 persons. The findings were positive in only 1 of the 20 healthy persons, but they were positive in 8 out of 12 patients with cirrhosis of the liver, the negative findings being in the incipient cases. The findings were negative in all the other forms of liver affections, chronic atrophy, fatty liver or mere hyperemia, also in 5 cases of secondary cancer of the liver. The levulosuria test is important, he affirms from these experiences, to aid in differentiating conditions in which a serious liver affection is probable but is not demonstrated, especially cirrhosis, the enlargement of the liver in this case sometimes suggesting some other origin. Ingestion of 100 gm. levulose only exceptionally induces levulosuria in healthy persons. Positive findings suggest the existence of a diffuse affection of the liver, most probably advanced cirrhosis. Levulosuria is seldom noted with jaundice nor with small parenchymatous lesions or metastatic cancer in the liver.

119. Vaccinal Inoculation of the Eye.—During the stampede for vaccination in Vienna last year Tertsch encountered nineteen cases in which the eye had become infected with vaccine. In one case an unvaccinated boy had a cinder in his eye, and his mother and sister, who had been recently vaccinated, worked over the eye for some time, trying to remove the cinder. A vaccinal lesion developed which healed finally, leaving little injury. In another case a vaccinal affection of the lids left a large defect as it healed. In only four of the total nineteen cases was the lesion the result of autoinoculation; in others it came from other persons. He never noticed any aggravation of the condition in fifty children with eczematous ocular or cutaneous affections among the 300 children he had occasion to vaccinate.

Zentralblatt für Chirurgie, Leipzig.

January 11, XXXV, No. 2, pp. 33-56.

126 Suture of Fascia and Skin. (Fascien- und Hautnaht.) P. Sick.
127 Technic for Extirpation of Meniscus of Knee. M. Herz.

January 18, XXXV, No. 3, pp. 60-88.

128 Urine Findings After Stovain Spinal Anesthesia. Hosemann.
129 Treatment of Fracture of the Clavicle. (Chromlederstreckverband mit eingeschaltetem künstlichen Strebebogen.) Evler.
130 Physical Tests of Silk, Celluloid Thread and Ramie Thread. (Physikalisches über Seide, Zelluloidzwirn und Ramiezwirn.) M. Madlener.

Zentralblatt für Gynäkologie, Leipzig.

January 11, XXXII, No. 2, pp. 33-64.

131 Decapsulation of the Kidney in Puerperal Eclampsia. Recovery. (Nierendekapsulation bei Eklampsie.) W. Falgowski.
132 Suture in Tiers with Removable Bronze-Aluminum Wire. (Verwendung der entfernbaren Etagennaht mit Bronze-aluminiumdraht.) L. Okintschitz.
133 Removal of Suppurating Tumors. (Technik des Bauchschnittes.) L. Heidenhain.
134 Importance of Restoring the Great Omentum to Place Before Closing the Abdomen. Id.

January 18, XXXII, No. 3, pp. 65-96.

135 *Flap Plastic Operation for Vesicovaginal Fistula. (Neue Lappenplastik bei Vesico-Vaginalfisteln.) L. Moszkowicz.
136 *Resuscitation of Apparently Asphyxiated New-born Infants. (Wiederbelebung scheintod geborener Kinder.) M. Schwab.
137 *Mechanical Assistants. (Mechanische Assistenten.) O. Wille.

135. Plastic Operation for Vesicovaginal Fistula.—The main feature of the plastic operation proposed by Moszkowicz is that the pedunculated flap cut from behind the fistula is pushed through into the bladder and lies over the defect, extending a little beyond it on all sides. The bladder content presses it over the gap like a valve. Healing can be promoted by cutting a similar flap in the bladder mucosa and using it to reinforce the first. He has thus operated on a patient with success, the size of the defect precluding the application of any other technic of which he knows.

136. Schultze's Swinging in Obstetrics.—Schwab reports some cases in which he applied Ogata's modification of Schultze's technic. It was described in these columns Dec. 14, 1907, page 2044. He was much impressed with the value of the Ogata technic, which, he says, does away with the disadvantages of the other. He does not follow the Ogata technic completely, but prefers to flex the legs up on the chest instead of bending the chest down to the legs, in one part of the maneuvers.

137. Mechanical Assistants.—Wille describes a couple of appliances which mechanically hold the speculum and forceps in place, thus taking the place of an assistant. He has found them extremely useful in several years' experience.

Gazzetta degli Ospedali, Milan.

January 5, XXIX, No. 2, pp. 9-24.

138 *Maragliano Serum in Treatment of Tuberculosis. Monti.
139 *Diagnosis and Treatment of Venereal Ulcer. C. Ventura.
140 *Advantages of Injecting Air After Thoracocentesis. (Toracentasi pneumatica.) V. Fontana.
141 *Sodium Sulphate in Infantile Enterocolitis. A. Ciccarelli.
142 Osteomalacic Paralysis. G. Bassi.
143 Primary Suppurating Echinococcus Cyst of the Lung. Spontaneous Cure. E. Piperno.
144 Lumbar Puncture in Chronic Hydrocephalus. A. Gasparini.

January 12, No. 5, pp. 41-56.

145 *Diagnostic Importance of Reflex Muscle Sign in Typhoid Fever. (Miotedema riflesso nella tifoide.) G. P. Goggia.
146 Operative Treatment of Dislocation of the Clavicle. (Cura cruenta della lussazione sopraacromiale della clavicola.) J. Bruchi.
147 Advantages of Acetylene Gas Plant for Isolated Surgical Hospital. S. Sollerl.
148 *Instrumental Dilatation of the Pylorus for So-called Uncontrollable Vomiting. (Divulsione strumentale del piloro.) D. De Francesco.

149 Venesection in Pneumonia, etc. (Salasso.) U. Masi.
150 *Potassium Bitartrate in Surgery. (Il cremore di tartaro in chirurgia.) V. Mazzini.

138. Treatment of Tuberculosis with Maragliano's Serum.—Monti reports twenty-five cases of tuberculous lesions in children treated with Maragliano's serum. The patients with surgical tuberculosis showed marked improvement, as a rule, and those with tuberculous pulmonary lesions were also benefited, the results along both lines encouraging further application of the specific treatment. In an editorial note it is pointed out that specific treatment of this kind has no action on pyogenic processes, secondarily installed, consequently its efficacy is limited to the tuberculous factor involved.

139. Treatment of Venereal Ulcers.—Ventura prefers a 50 per cent. solution of zinc chlorid for local treatment of venereal ulcers. This does not affect the sound skin, but cauterizes the ulcerations and shows up by its caustic action any incipient ulcerations around the main lesion, which are still too young for detection otherwise. He dresses the part with a disinfectant afterward.

140. Injection of Air After Thoracentesis.—Fontana discusses the accidents sometimes observed after puncture of the thorax owing to the abrupt subsidence of the previous compression of the organs within. This can be prevented by immediately allowing a certain amount of filtered air to enter. He has done this with excellent results in twelve cases. If a bubbling sound is heard as the air enters the chest, it indicates that the effusion has not been entirely evacuated. His observations seem to confirm the assumption that the air in itself has some curative action.

141. Sodium Sulphate in Infantile Enterocolitis.—Ciccarelli reports a number of typical cases out of his experience with fifty infants suffering from a dysenteriform enterocolitis, all of which demonstrated the beneficial action of sodium sulphate in conjunction with restriction to a carbohydrate diet. The sodium sulphate triumphed even in cases in which calomel, castor oil, etc., had failed to benefit.

145. Importance of a Muscular Reflex Seen in Typhoid.—Goggia calls attention to the fibrillary contraction which occurs in the brachial biceps when the belly of the muscle is struck suddenly but lightly and is then pinched gently between thumb and finger. The aim is to apply a sudden, brief and comparatively gentle mechanical stimulus to the muscle. It induces a sudden local contraction of the belly of the muscle at this point when the individual is debilitated from any cause. Under normal conditions the contraction extends throughout the whole muscle and does not remain limited to the point irritated. This sign has been described in the literature under the name myedema or idio-muscular reflex, but it has been regarded as a sign of any debilitating disease. Goggia affirms, however, that while it is constant in typhoid it is present only exceptionally in other diseases. It was positive in his 18 typhoid patients, also in 11 out of 18 pneumonia patients, in 2 out of 9 with erysipelas, and in 3 out of 4 with grip, but the reaction was much more pronounced in the typhoid patients than in most of the others, and he thinks that it can be accepted as a valuable adjuvant sign of typhoid fever.

148. Stretching the Pylorus for So-Called Uncontrollable Vomiting.—De Francesco's patient was a peasant woman who for five years had vomited after nearly every meal, retaining only a small part of the food. The symptoms did not indicate inflammation, ulcer, tumor or hysteria. He opened the stomach and stretched the pylorus, which seemed to be a trifle irregular in outline, with the walls a little thicker than usual. He introduced forceps and stretched the opening about two finger-breadths wider, then sutured the stomach, and the patient has had no recurrence of the vomiting since.

150. Potassium Bitartrate for Dressing Wounds.—The Italians have been using since 1892 ordinary cream of tartar as a dressing for wounds. Lupo has published experiments which showed that a piece of meat could be kept intact for two months in a solution of potassium bitartrate. As a dressing for wounds it seems to inhibit bacterial growth, putrefaction and fermentations while it stimulates granulation and cleanses the region, and is free from toxic action and odor. Mazzini adds to these virtues its efficacy in arresting necrotic processes in the bones and gangrenous processes, as it modifies conditions until the parts heal. It acts better when applied as a powder or on gauze, rather than in aqueous solutions, as water has an injurious influence on the tissues. The effect of the bitartrate is enhanced by alternating it with some other antiseptic or sterile dressing. He has used it on hundreds of soldiers with various affections and lesions and has always been pleased with the results, which he attributes mainly to the liberation of nascent oxygen as the bitartrate comes in contact with the blood or local secretions.

Policlinico, Rome.

January, XV, Medical Section, No. 1, pp. 1-48.

151 *Acute Insufficiency of the Capsule in Connection with Affections of the Suprarenal Glands. G. Sotti.
152 Lesions of the Suprarenal Capsules in a Case of Purpura. G. Melchiorri.
153 New Apparatus for Determination of Viscosity of Blood. W. Hess.
154 Morphologic and Chromatic Changes in the Leucocytes and Significance of Circulating Leucocytes Containing Fat. O. Torri.

January 12, Practical Section, No. 2, pp. 33-68.

155 Sensory Spinal Metameres. G. Calligaris.

January 19, Practical Section, No. 3, pp. 69-100.

156 Desquamation in Typhoid Fever. B. Cicaterri.

151. Acute Insufficiency of the Suprarenal Capsules.—Sotti reports the case of an apparently healthy farmer who had been doing some hard work, exposed to the sun for several hours, when suddenly he collapsed with intense abdominal pain and headache with great prostration. On the presumptive diagnosis of sunstroke, he was treated with cold to the head and purgatives, but the symptoms persisted, soon accompanied by vomiting and hiccough; the prostration increased, with a tendency to stupor, there were intense headache and delirium, respiration was superficial, the pupils were dilated and did not react to stimuli, the heart sounds became faint, and death occurred at the end of the week. The only pathologic findings at autopsy were atrophy of the suprarenals from a sclerotic process in the veins and compression from a hematoma from rupture of one of the veins in the adipose tissue surrounding the left suprarenal capsule. Sotti reviews the cases in the literature resembling this, and attributes the acute insufficiency in his case to excessive exposure to the heat of the sun.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

LINNÉS DIETETIK. På Grundvalen af dels hans eget originalarbete kast till föreläsningar: "Lachesis Naturalis Quæ Tradit Diætam Naturalem," och dels lärjungeanteckningar efter dessa hans föreläsningar: "Collegium Diætéticum." på uppdrag af Medicinska Fakulteten i Uppsala. Ordnad och Utgifven af A. O. Lindfors. Paper. Pp. 263. Upsala: Akademiska Boktryckeriet Edv. Berling, 1907.

SURGERY, ITS PRINCIPLES AND PRACTICE. Edited by W. W. Keen, M.D., LL.D., Hon. F.R.C.S., Eng. and Edin., Emeritus Professor of Principles of Surgery, Jefferson Medical College. Vol. III. Pp. 1132, with illustrations. Cloth. Price $7.00. Philadelphia: W. B. Saunders Co., 1908.

LINNÉPORTRATT, vid Uppsala Universitets Minnesfest på tvåhundraårsdagen af Carl von Linnés Födelse. A Universitetets vägnar af Tycho Tullberg. Paper. Pp. 189, with 39 illustrations and 7 page plates. Stockholm: Aktiebolaget Ljus, 1907.

SYPHILIS. By Edward L. Keyes, Jr., A.B., M.D., Ph.D., Clinical Professor of Genitourinary Surgery, New York Polyclinic Medical School and Hospital. Pp. 577, with illustrations. Price, $5.00. New York: D. Appleton & Co., 1908.

HYPNOTIC THERAPEUTICS IN THEORY AND PRACTICE. By John Duncan Quackenbos, A.M., M.D. Author of "Hypnotism in Mental and Moral Culture." Cloth. Pp. 330. Price, $2.00. New York: Harper & Brothers.

SEVENTH ANNUAL REPORT of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw. Paper. Pp. 46. Albany: J. B. Lyon Co., 1907.

CONFESSIO MEDICI. By the writer of "The Young People." Cloth. Pp. 159. Price, $1.25. New York: The Macmillan Co., 1908.

TWENTY-FIRST ANNUAL REPORT of the State Board of Health of Ohio. Pp. 551. Cloth. Columbus: F. J. Heer, 1907.

SEVENTEENTH ANNUAL REPORT of the Ohio Hospital for Epileptics. Paper. Pp. 93. Columbus: F. J. Heer, 1908.